

SERVICEMANUAL

PUMA KINETIC



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This manual

This manual contains the basic instructions for repairs and general maintenance of the Puma Kinetic electric wheelchair.

Mechanics who do repairs on this wheelchair must be well trained and familiar with the repair methods and the maintenance of the Puma Kinetic electric wheelchair.

It is important to see to it that work is always done safely, particularly with respect to activities where the wheelchair must be lifted up.

We advise that you contact our service department before doing repair work on a wheelchair that has been involved in an accident.

The following specifications are important when ordering parts:

- Model
- Manufacture year
- Color
- Identification number
- Part number
- Name of the relevant part

This information can be found on the identification plate. See 'Identification of the product'.

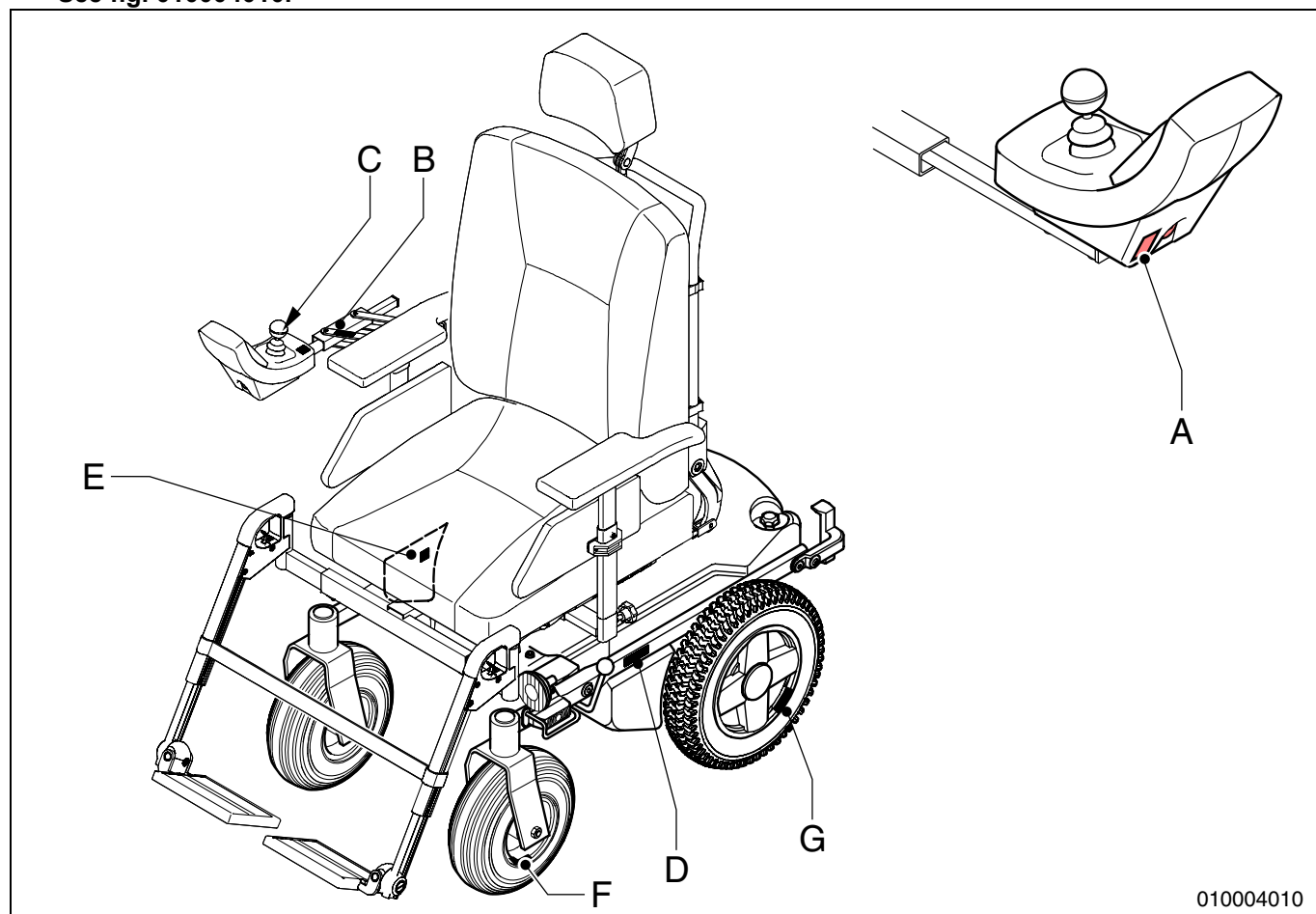
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Product reference

XXXXXX-010004000-en.doc

The product has the following decals and labels.

- See fig. 010004010.



- A. Charging connection
- B. Controller caution!
- C. Review owner's manual
- D. Free Wheel
- E. Automatic fuse
- F. Tire pressure swivel castor
- G. Tire pressure drive wheel

EBAPUM-010004010-en.doc



A. Charging connection

For charging the batteries, see 'charging'.

PICPRO-010004210-en.doc



B. Controller caution!

Use caution when adjusting the controller to avoid obstructions.

PICPRO-010004230-en.doc

RAADPLEEG VÓÓR GEBRUIK
DE HANDLEIDING OF
CONTACT UW DEALER

C. Review owner's manual

The wheelchair should only be used after the owner's manual has been studied carefully. Never use the wheelchair before having reviewed and understood the contents of the manual.

PICPRO-010004250-en.doc

D. Free Wheel



1. Lever in the lowest position:
The drive of the motors is switched on: The wheelchair can be electrically driven.
2. Lever in the highest position:
The drive of the motors is disconnected: the wheelchair can be pushed.

PICPRO-010004310-en.doc



E. Automatic fuse

The wheelchair has a safety fuse feature. See 'automatic fuse' and 'faults'.

PICPRO-010004270-en.doc

MAX. 3,5 BAR

F. Tire pressure swivel castors

For tire pressure of the swivel castors, see 'product specification sheet'.

PICPRO-010004320-en.doc

MAX. 2 BAR

G. Tire pressure drive wheels

For tire pressure of the drive wheels, see 'product specification sheet'.

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The following pictograms are used in this manual:

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CAUTION

Procedures that can result - if they are not executed properly - in damage to the product, the environment, or human injury.

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ATTENTION!

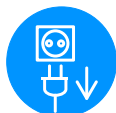
Suggestions and advice for conducting the relevant tasks or activities more easily.

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Consult the specified information source(s) first.

PICDOC-010004130-en.doc



Pull the charge cord out of the charging connection of the electric wheelchair before doing any maintenance on the wheelchair.

PICDOC-010004140-en.doc

Available documentation

The following technical documentation is available for this wheelchair:

- Owner's manual
- Service manual.

XXXXXX-010005000-en.doc

Service and technical support

For information concerning specific settings, maintenance or repair work please contact your dealer. He is always prepared to help you.

Ensure you have at hand:

Model

Manufacture year

Identification number

This information can be found on the identification plate. See 'Identification of the product'.

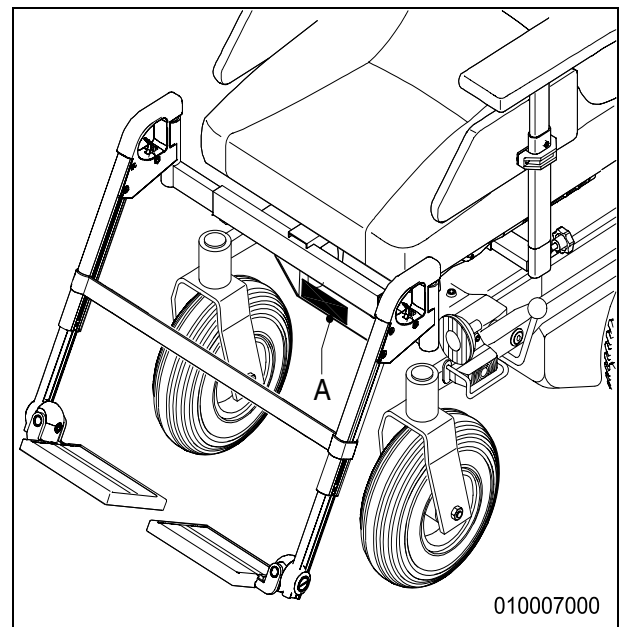
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Identification plate

- See fig. 010007000.

On this plate (A) information on the product can be found.
See: 'Identification of the product'.

EBAPUM-010007000-en.doc



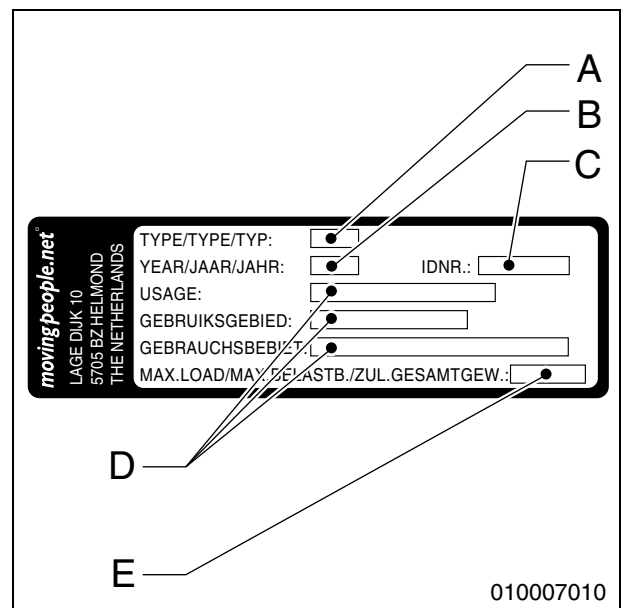
Identification of the product

- See fig. 010007010.

- A. Model
- B. Manufacture year
- C. Identification number
- D. User area indoors or outdoors
- E. Maximum load in kg

- For the place of the identification plate, see 'main components'.

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Warranty stipulations concerning the wheelchair

In the following warranty and liability stipulations the terms and definitions as summed up hereafter must be explained as follows:

- **Product:** The hand-operated or electrical wheelchair or electrical scooter manufactured and delivered by Handicare.
- **Customer:** The person who directly obtains a Product from Handicare or an authorized representative.
- **Dealer:** The person who delivers a Product obtained from Handicare to customers or third parties.
- **User:** The person who uses a Product manufactured by Handicare.

Irrespective of what is determined concerning warranty conditions applicable to the Product, in any case the following applies with regard to the warranty:

1. Except insofar as described otherwise Handicare guarantees the Product for its suitability for the purpose for which the Product is intended - all of these points as described in this manual - and for the quality of the material of which the Product is made and the manner in which the Product is manufactured.
2. Repairs or replacement of parts of the Product that may be necessary as a result of faults that are based on qualitatively faulty material or manufacturing errors will be executed free of charge, as long as such faults occurred within one (1) year after the date of delivery of the Product to the Customer. The parts to be replaced must be shipped post-paid to Handicare. Disassembly or assembly of these parts is for the expense of the Customer. Therefore the following cases are not eligible for free repair or replacement as meant above:
 - The repair or replacement that is necessary in connection with faults that arise after one (1) year after the date of delivery of the Product to the Customer;
 - The repair or replacement that is required in connection with faults due to improper or careless use of the Product or that are based on the Product being used for another purpose than the one for which it is intended, in which regard it applies that if the Customer is a Dealer, this Dealer will indemnify Handicare against possible claims from Users or other third parties for faults based on an incorrect or careless use of the Product;
 - Parts that are subject to wear, and the need for repair or replacement of the parts are the actual consequence of normal wear. These can include, but are not limited to, tires, shrouds, arm-pads, seatings etc.
3. Irrespective of that stipulated under 2, it applies as far as an electric Product is concerned that with regard to the battery that forms part of the Product warranty is only given in case of faults or non-functioning of the battery that are demonstrably the direct consequence of material or manufacturing errors. A fault or non-functioning of the battery as a result of normal wear is not covered by the warranty as meant in these warranty stipulations. Similarly not covered by the warranty are faults or non-functioning that are the consequence of improper or unprofessional use of the Product or the battery that is part of the Product, including the incorrect charging of the battery and the failure to carry out timely and good maintenance, in which context it also applies that if the Customer is a Dealer, this Dealer will indemnify Handicare against possible claims from Users or other third parties that are based on the above mentioned improper or unprofessional use of the Product or the battery that is part of the Product. Handicare does not guarantee batteries provided by dealers or purchased by the customer.
4. The warranty conditions as mentioned in above stipulations in any case become null and void if:
 - The guidelines of Handicare for the maintenance of the Product are not, or insufficiently, followed;
 - A necessary repair or replacement of parts is based on neglect, damage or abuse of the Product or a use of the Product for another purpose than the one for which it was intended;
 - Parts of the Product are replaced by parts of another origin than those which Handicare uses and/or parts of the Product are replaced without the permission of Handicare.
5. The warranties as mentioned in stipulations 1 through 3 also become null and void if what is involved is re-used by a new user within the warranty period and that such re-use necessitates adaptations to the wheelchair and those adaptations are carried out without the instructions and/or at the order of Handicare.
6. To retain rights under the above delineated warranties the Customer must, in case of damage or other calamities, as rapidly as possible contact Handicare and inform them as fully as possible.
The possibility of taking recourse to the above-mentioned warranty conditions becomes null and void for the Customer in any case after 20 workdays after the claim situation or the calamity arises that was the reason for the recourse to the guarantee.
7. The replacement of a part or the repair or the reconditioning of the Product within a current warranty period does not extend the warranty period.
8. Handicare gives no warranty on repair to or reconditioning of the Product carried out other than under order of and/or at the instructions of Handicare. If repairs and/or reconditioning are executed by or on behalf of a

Customer, the Customer indemnifies Handicare with respect to the claims of third parties who result, in the broadest sense of the word, from such repairs or reconditioning.

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Liability stipulations concerning the Product

Irrespective of what is determined regarding liability in the general conditions applicable to the Product, with regard to liability in any case the following applies:

1. taking into consideration the following stipulations, Handicare only accepts liability for loss due to death or physical injury that is the result of a defect in the Product for which Handicare is responsible and for damage to another object that is the private property of the user of the Product, as long as said loss is the direct result of a fault in the Product.
2. Handicare accepts no other or further liability than delineated under 1. In particular Handicare accepts no liability for consequential damage, in any form whatsoever.

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Used wheelchairs and the environment



If your wheelchair has become superfluous or needs to be replaced, it can usually be taken back by your dealer. If this is not possible, please contact your local authorities for the possibilities of recycling or an environmentally friendly way of disposing of the used materials.

For the production of the wheelchair several plastics and metals have been used. The wheelchair also contains electronic components that must go to electronic waste. Used batteries belong to chemical waste.

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Use according to purpose¹

The electrical wheelchair Puma Kinetic has been designed for the transport of persons to a weight of maximally 120 kg (275 lbs).

Your dealer should give you good user's instructions before you can independently operate the product and participate in traffic.

You must be able to correct the consequences of actions while driving the Puma Kinetic.

Consider operating the Puma Kinetic under the monitoring of an experienced dealer during first operations.

The Puma Kinetic wheelchair is not a sports wheelchair.

The wheelchair has been designed for use in and outdoors.

The Puma Kinetic has a maximum speed of 10 km/hour.

If you use the wheelchair for other purposes than those for which it is intended, Handicare accepts no liability whatsoever for damage or injury resulting from such use other than that for which the wheelchair was developed and designed.

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¹'Use according to purpose' as established in EN 292-1 is the use for which the technical product is suitable according to the statement of the manufacturer, including his instructions in the sales brochure. In case of doubt this is the use that follows from the construction, execution and function of the product. Use according to purpose also includes taking into consideration the instructions in the owner's manual.

1 General safety regulations and instructions

Handicare accepts no liability whatsoever for damage or injury caused by the failure to (strictly) adhere to the safety guidelines and instructions or else due to carelessness during the use and cleaning of the wheelchair and possible accessories. Depending on the specific work circumstances or the accessories used, additional safety instructions may be required. Please contact your dealer immediately if you observe a potential danger during the use of the product.



The user of the wheelchair (see under 'use according to purpose') is at all times fully responsible for the fulfilment of the locally applicable safety regulations and guidelines.

1.1 Decals and instructions on the wheelchair

Signs, symbols and instructions placed on this wheelchair comprise part of its safety facilities. They must never be covered or removed and must remain present and clearly legible throughout the entire lifespan of the wheelchair.

- **Immediately replace or repair illegible or damaged signs, symbols and instructions.**
- **Contact your dealer with regard to this.**
-

1.2 Technical specifications

The technical specifications may not be changed.

1.3 Modifications

Modification of (parts of) this product is not permitted.

1.4 Safety

To avoid accidents and undesirable situations, it is of great importance to pay attention to the following safety instructions.



- **Pay extra attention to riding on slopes:**
- **Do not drive with the Puma Kinetic on a slope with an angle of more than 11° (rising percentage of 20%).**
- **On slopes always drive slowly and with awareness.**
- **The wheelchair is less stable on a slope and has less sideways stability.**
 - **Never take curves at full speed. Decrease speed on the approach and on the curve.**



- **Be sure that no items of clothing hang loose. These could become caught between the wheels.**



- **Adjust your riding according to the circumstances:**
- **Drive carefully on slippery roads, resulting from rain, ice, or snow!**
- **Prevent the Puma Kinetic from coming into contact with rain and seawater. Sea water is caustic and may damage the wheelchair.**
- **Prevent the Puma Kinetic from coming into contact with sand. Sand can affect the moving parts of the wheelchair, resulting in unnecessarily rapid wear.**
 - **Never operate the wheelchair when you are under the influence of drugs, alcohol or medication that could affect your driving ability.**
 - **You must have sufficient visual acuity to be able to drive safely in the wheelchair.**
 - **You are obliged to put the lights on when the view is hindered.**



- **The magnetic key with which the wheel chair is switched on and off can have an influence on the magnetic strips of credit cards.**
- **Do not store the magnetic key with credit cards and similar cards.**
- **Avoid the joystick inadvertently contacting other surfaces to prevent unintentional movement.**



- *The standard version of your wheelchair was tested according to the strictest EMC requirements. Mobile telephones have no influence on the driving behavior of the wheelchair.*
When using a mobile telephone in the vicinity of a wheelchair with special adaptations, you are advised to first switch off the wheelchair.
- *Your wheelchair may influence electromagnetic fields such as alarm systems.*

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2 Adjustment options

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2.1 The Sedeo[®] seating frame

The wheelchair has a unique seating system made by Handicare, known as Sedeo[®]. Sedeo is the Latin word for: 'I sit'.

Functions of the Sedeo[®] seating system

The Sedeo[®] seating system offers outstanding support for:

1. The body:
The sitting position is well supported with a total range of solutions for the head, the torso, arms, pelvis, upper legs, lower legs and feet, both in terms of posture and pressure distribution.
2. The range of body functions:
The body is supported in such a way that you can carry out a wide variety of actions, because you can move into a stable sitting position.

A specialist or authorized representative should adjust the wheelchair. Erroneous settings can lead to negative consequences for both your sitting position and the driving characteristics, as well as performance of your wheelchair.

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2.1.1 Adjusting the Sedeo[®] seating frame

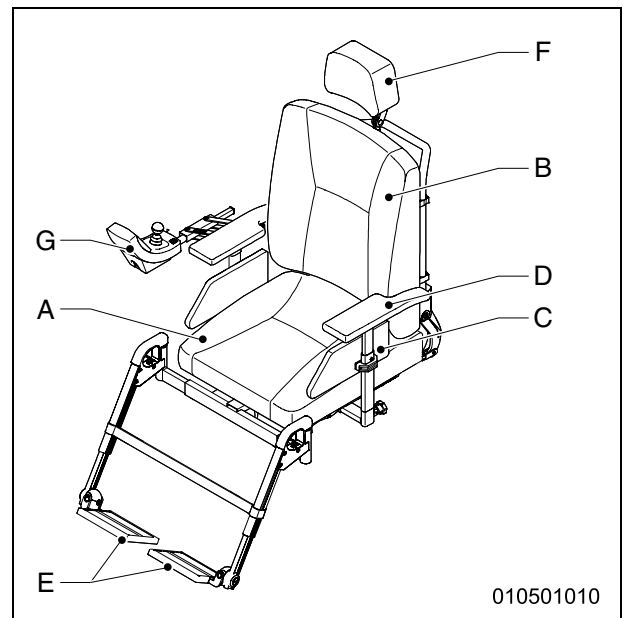
- See fig. 010501010.

All body parts are supported by the proper setting of the Sedeo[®] seating system.

This includes:

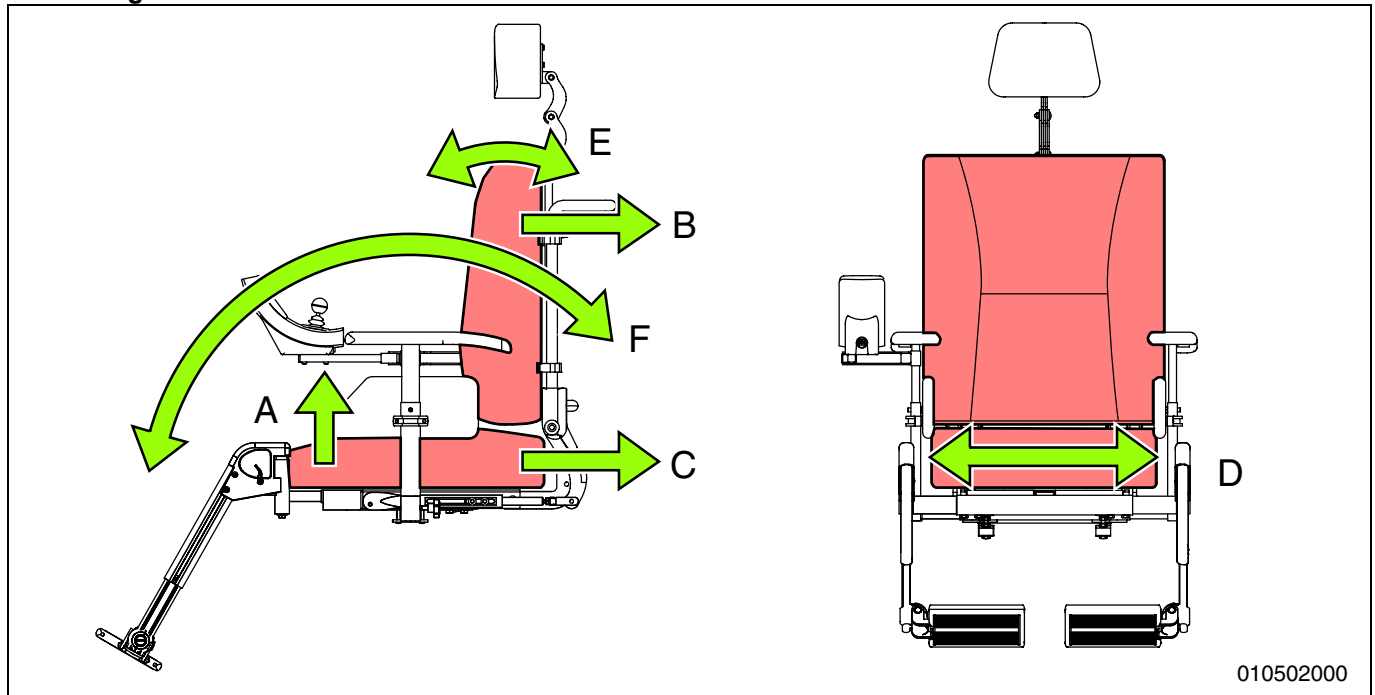
- A. Seat.
- B. Backrest.
- C. Side panel.
- D. Armrest.
- E. Legrest
- F. Headrest (option).
- G. Controller

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2.2 Seating adjustments

- See fig. 010502000.



The following parts of the seating system can be adjusted:

- The height (A). See 'Adjusting the seat height'.
- The depth. See 'Adjusting the seat depth' (B) and 'Position of the seat cushion' (C).
- The width (D). See 'Adjusting the seat width'.
- The back angle (E). See 'Adjusting the back-support angle'.
- The seat angle (F). See 'Adjusting the seat angle'.

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2.2.1 Adjusting the seat height

- See fig. 010502010.

A good seat height setting is important to be able to easily take a seat at tables and desks. A minimum seat height is also important in order to keep the footplates free from ground obstructions (thresholds, curbs etc).

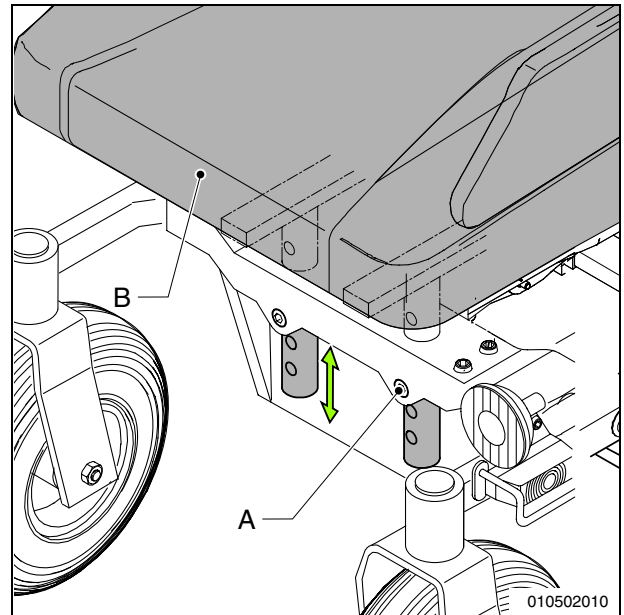
The seat height will generally be an average level between these two.

The seat height of the Puma Kinetic wheelchair can be adjusted to five levels.

The chair is installed on an interface, which is equipped with tubing. This interface can be adjusted on the carrier to 5 different heights, in 25 mm steps. Depending on the desired seat height the interface can be adjusted one or more holes: upward or downward.

For the seat height adjustment you should leave the wheelchair. The adjustment must be done as follows:

- Loosen the Allen bolts (A) on both sides of the carrier with an Allen key with a key width of 8 mm and remove them.





When removing the second Allen bolt the chair can slide downward and your fingers may get caught between the carrier and the interface. Hold the chair so that it cannot slide during this procedure.

A bush can be slid over each bolt. Should a bush come out when taking out a bolt, slide the bush back onto the bolt.

- Bring the chair (B) up to the desired height.
- Replace the Allen bolts and tighten them securely.

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2.2.2 Adjusting the seat depth

- See fig. 010502020.

The seat depth can be adjusted between approximately 44 cm and 52 cm (17' and 20') by shifting the backrest.

The seat depth adjustment should be done as follows:

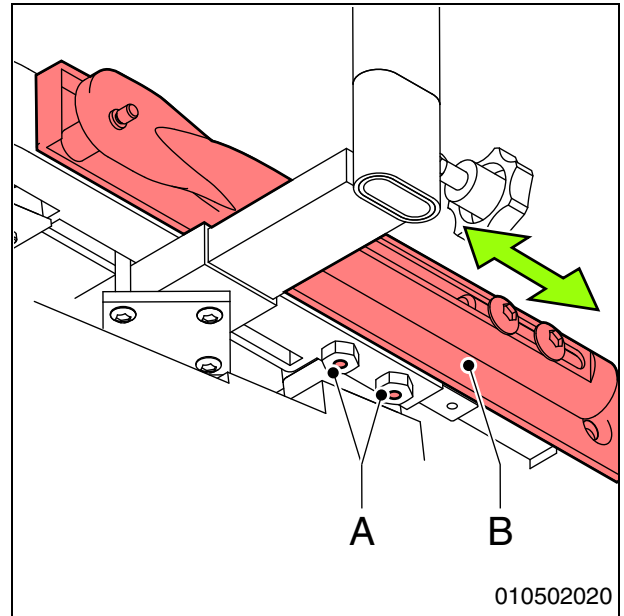
- Loosen the locking bolts (A) on both sides of the chair frame a half turn (180°) loose with an Allen key with a key width of 4 mm.
- Slide the backrest (B) to the desired depth.



To promote good circulation in your legs and not restrict the nerves, we recommend at least 2 cm (approx. 1") free space between your knees and the front of the seat.

- Tighten the locking bolts on both sides securely.

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2.2.3 Adjusting the seat width

- See fig. 010502030.

The space between the two armrests can be adjusted as desired between 36 cm and 52 cm (15" and 20"). The holder for the armrests can be shifted in width on both sides

Do the adjustment, or have it done by someone, and then take your seat in the chair.

The seat width adjustment should be done as follows:

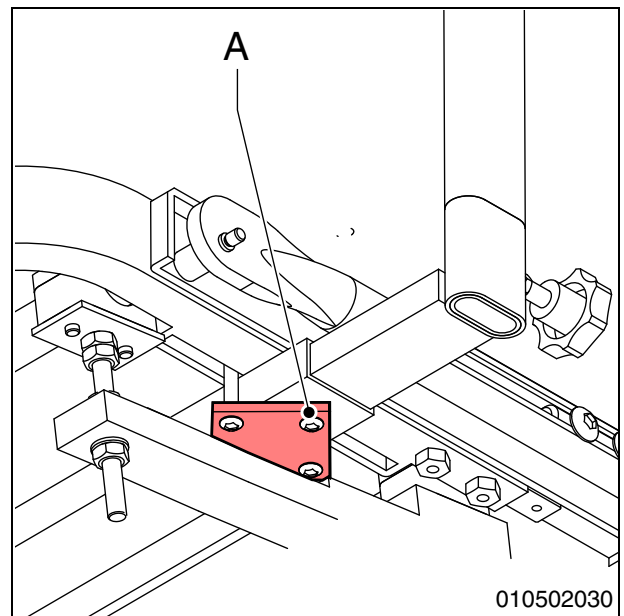
- Loosen the two Allen bolts (A) on both sides of the chair frame with an Allen key with a key width of 4 mm.
- Slide the armrests to the desired width.



Set the side panels equally, in such a way that you feel comfortable and that you have enough support and enough freedom of movement.

- Tighten the Allen bolts properly on both sides.

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2.2.4 Adjusting the seat angle

- See fig. 010502040.

The seat part of your wheelchair can be set at an angle that is comfortable for you. In this adjustment the angle of the entire chair is tilted with respect to the bottom part of the chair.

Before adjusting the seat angle you must leave the chair.

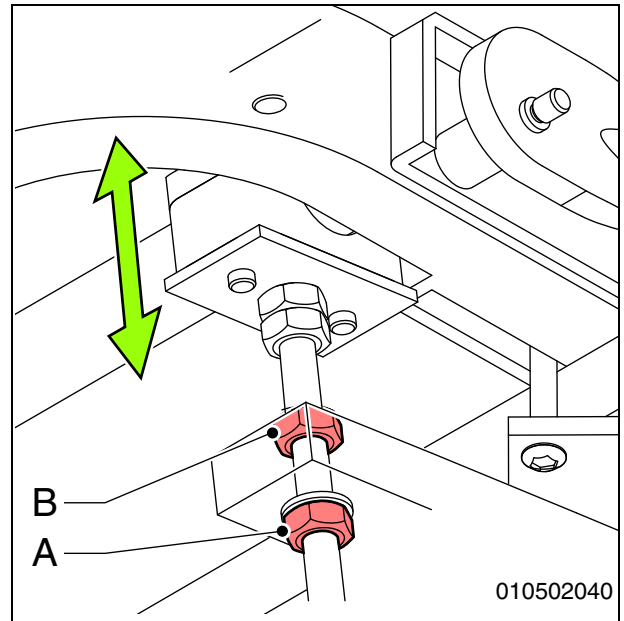
The seat angle must be adjusted as follows:

- Loosen nuts (A) on both sides with a spanner with a key width of 13 mm.
- Adjust the new angle by turning the nuts (B) up or down.

See to it that the nuts (A) are turned sufficiently far down so that the height can be set without any problems.



For each degree that the seat is set backward the seat height rises approximately 5 mm (1/4").



- Tighten the nuts in the position finger-tight.
- Try the new position.
- Lock the new seat angle by tightening the nuts on both sides securely against each other.

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2.2.5 Position of seat cushion

- See fig. 010502050.

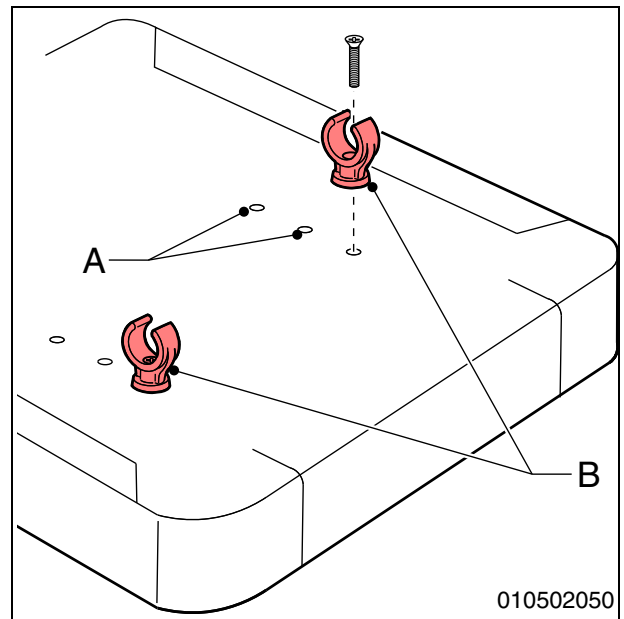
The seat cushion can be fastened to the frame in three positions. This allows the seat depth to be reduced.

The location of the seat cushion can be changed as follows:

- Remove the seat from the chair by pulling it up.
- Loosen the two clamps (B) with a Phillips screwdriver PH2.
- Place the clamps at one of the other places (A).
- Place the seat on the chair by clicking the clamps on the front round tube of the seat frame.



Check whether the seat is clicked in place securely.



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2.3 Adjusting the back-support angle

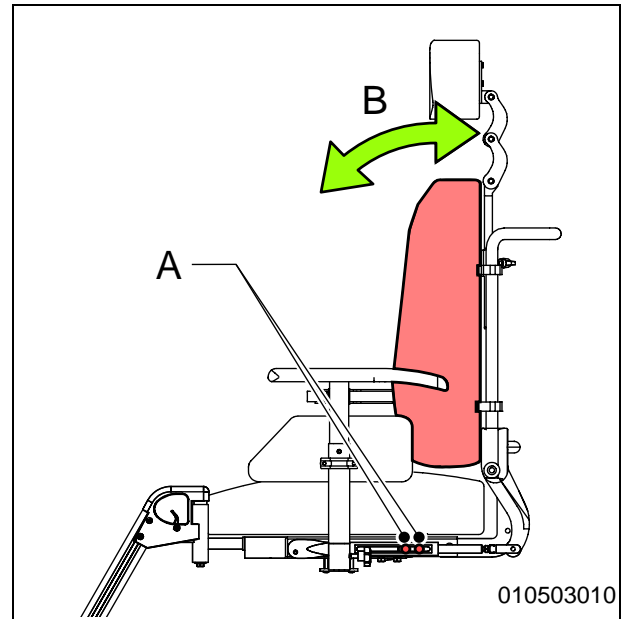
- See fig. 010503010.

For optimal seating comfort the angle (B) of the backrest can be adjusted continuously.

The angle of the backrest can be adjusted as follows:

- Loosen the two Allen bolts (A) on the left side of the back, under the seat, two turns with an Allen key with a key width of 4 mm.
- Adjust the desired back angle (B).
- Tighten the Allen bolts again.

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2.4 Adjusting the legrests

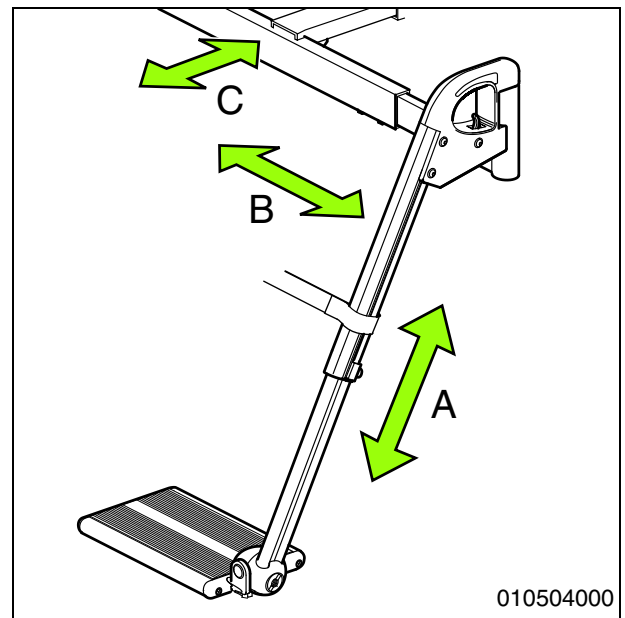
- See fig. 010504000.

Adjustment possibilities of the legrests:

- A. Length.
- B. Width.
- C. Depth.

Legrests also have an optional angle adjustment.

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2.4.1 Adjusting the length of the lower-legrests

- See fig. 010504010.

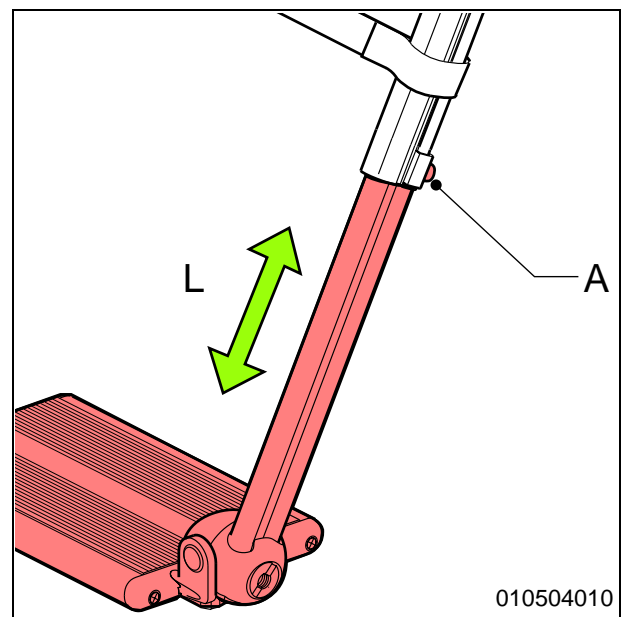
The adjustment of the length (L) of the legrests should be done as follows:

- Loosen the set bolt (A) a few turns with an Allen key with a key width of 4 mm.
- Adjust the length of the legrest.
- Tighten the set bolt again.



Make sure that there is sufficient free space under both footplates to be able to drive the wheelchair over obstacles, without impacting the footplates.

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2.4.2 Adjusting the width of the legrests

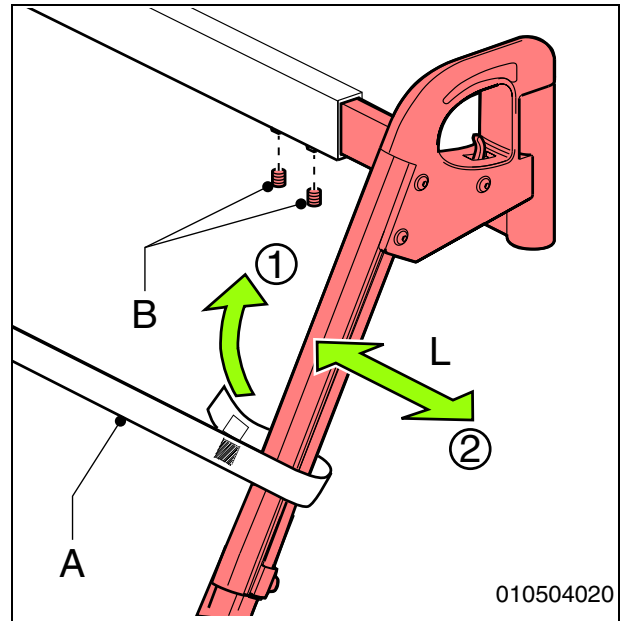
- See fig. 010504020.

The space between two legrests can be optimally adjusted for various seat widths.

The adjustment of the width of the legrests should be done as follows:

- First remove the calf strap (A) by pulling out the piece that is attached with velcro.
- Loosen the two setscrews (B) a few turns with an Allen key with a key width of 4 mm.
- Slide the legrests apart or toward each other and determine the desired seat width (L).
- Tighten the set bolts securely again.
- Fasten the calf strap again for this new seat width.

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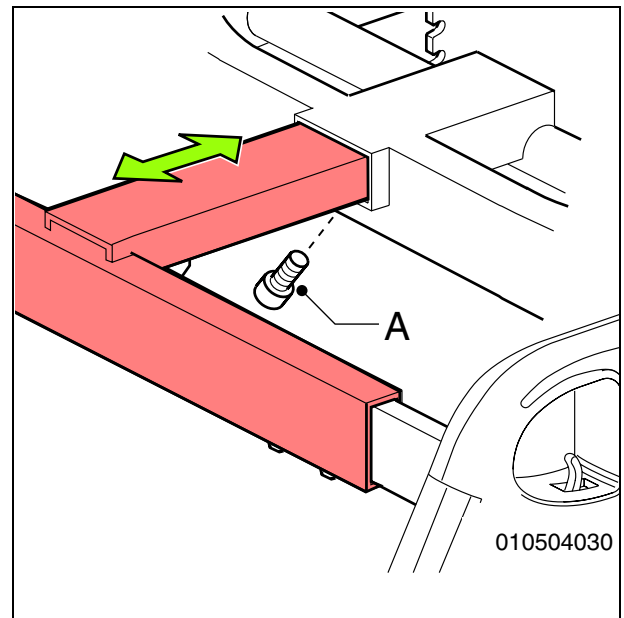
2.4.3 Adjusting the depth of the legrest

- See fig. 010504030.

Depending on the length of the upper legs, the legrests can be adjusted in terms of depth.

The adjustment of the depth of the legrests should be done as follows:

- Loosen the Allen bolt (A) a few turns with an Allen key with a key width of 6 mm.
- Adjust the desired depth by sliding the entire suspension bracket forward or backward.
- Tighten the Allen bolt securely again.



If the legrests are set too far backward (too close to the chair) it is possible that the swivel castors touch the legrests when driving backward or maneuvering. If this is the case, the legrests must be brought forward a bit: there must be at least 1 cm (3/8") cm between wheel and legrest.



If the legrests are set too far forward, it is possible that the suspension bracket of the legrest comes out from under the seat and pushes into the knees uncomfortably. If this is the case, the seat should be adjusted forward. See 'Position of the seat cushion'.

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2.4.4 Comfort legrest with gas-spring angle adjustment

- See fig. 010504050.

The comfort legrests are angle adjustable (A) independently of each other. There is a gas spring on each legrest that delivers enough force to allow the legrest to go up easily. If you wish to adjust the angle of the legrest, move your leg upward so that the legrest can move upward freely.

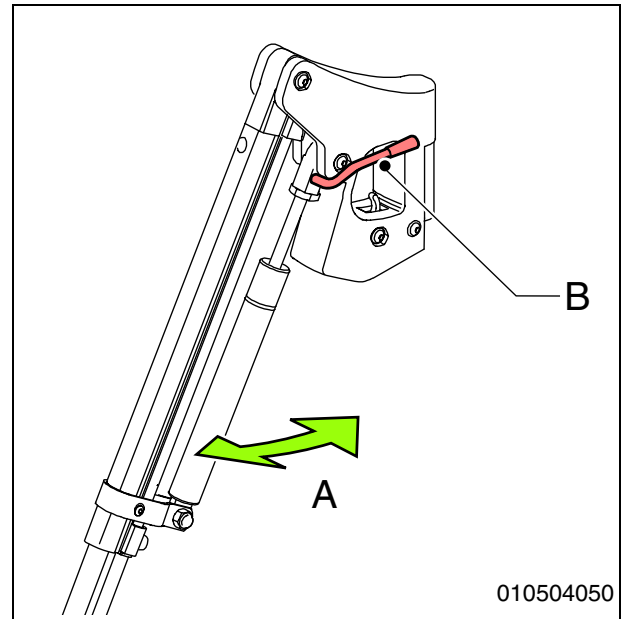
The adjustment of the angle of the legrests can be done as follows:

- **Push the handle (B) forward.**
Now the gas spring is unlocked.
- **Place your leg in the desired position and hold it until the legrest comes against your leg.**
- **Release the handle.**
In this position the legrest is fixed and you can allow your leg to rest.

If the leg support is too high, do the following:

- **Push the handle (B) forward.**
Now the gas spring is unlocked.
- **Push the legrest with a light pressure from your leg in the desired position and hold it in that position.**
- **Release the handle.**
In this position the legrest is fixed and you can allow your leg to rest.

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2.5 Adjusting the footplate

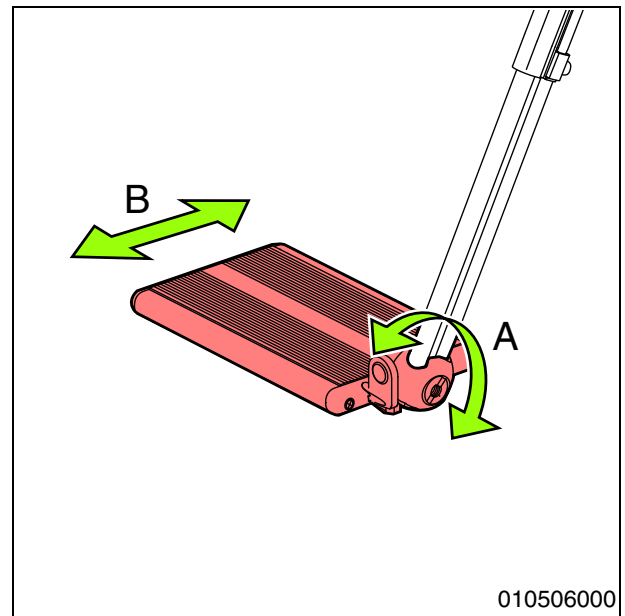
- See fig. 010506000.

The following can be adjusted on the footplate:

- A. The angle.
- B. The depth.

The footplate can also be folded up to ease transfer and positioning.

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2.5.1 Adjusting the angle of the footplate

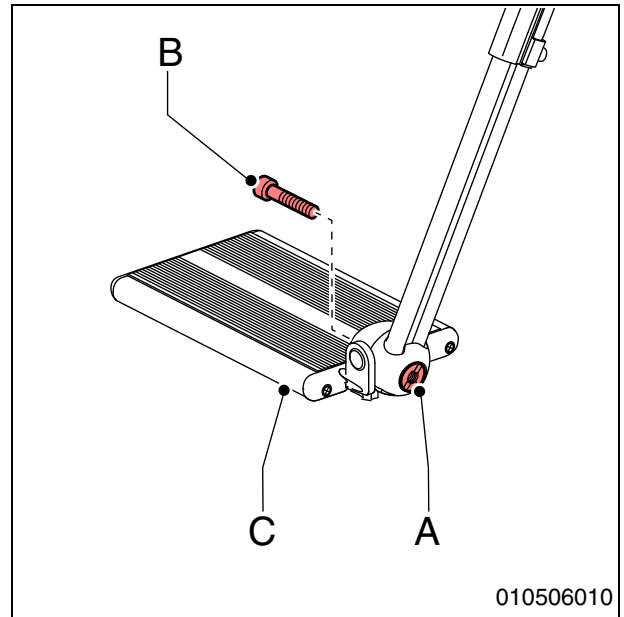
- See fig. 010506010.

The angle of the footplate can be adjusted with respect to the lower leg in steps of 5°.

The angle of the footplate should be adjusted as follows:

- **Loosen locking nut (A) with a large screwdriver.**
- **Then loosen the Allen bolt (B) on the inside of the footplate (C), with an Allen key with a key width of 6 mm, so far that the teeth of the hinge come completely free. Now the footplate can be freely adjusted.**
- **Adjust the desired angle of the footplate and push the hinge manually together again.**
- **Tighten the Allen bolt securely.**
- **Lock the Allen bolt with the locking nut.**

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2.5.2 Adjusting the depth of the footplate

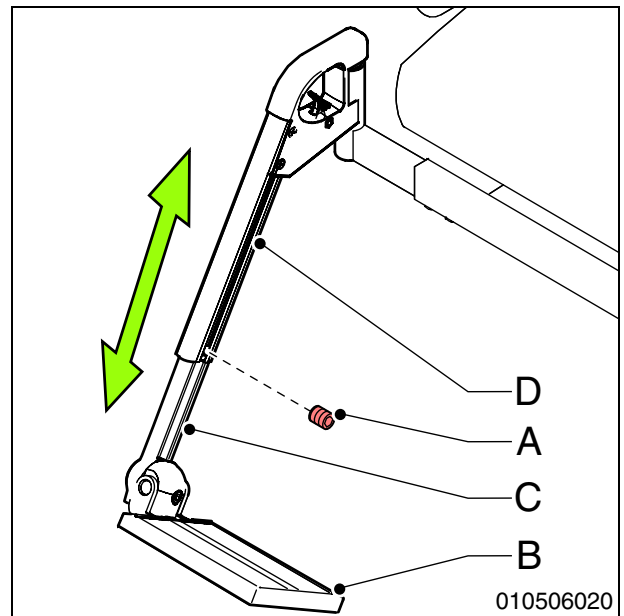
- See fig. 010506020.

The depth of the footplate can be adjusted in two different positions. For this the left and right footplate should be exchanged.

The exchanging of the footplates should be done as follows.

- **Remove the calf strap. See 'Removing calf strap'.**
- **Loosen the set bolt (A) a few turns with an Allen key with a key width of 4 mm.**
- **Let the footrest (B) lower together with the profile (C) from the top tube (D).**
- **Exchange both footplates for each other and slide them into the top tubes.**
- **Adjust the footplates to the desired height.**
- **Tighten the setscrews.**
- **If necessary readjust the angle of the footplate, see 'footplate angle adjustment'.**

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2.6 Adjusting the armrest

- See fig. 010508000.

The armrests provide support to the arms to limit the burden on the shoulders. For this purpose the armrests can be adjusted in terms of height (A) and depth (B).

The armrests can also be removed (C), to make space to leave the wheelchair sideways, for example if you make a transfer from a car seat.

By removing the armrests the wheelchair can be made smaller, which and it simplifies transport.

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2.6.1 Adjusting the height of the armrest

- See fig. 010508010.

The height adjustment can be done as follows:

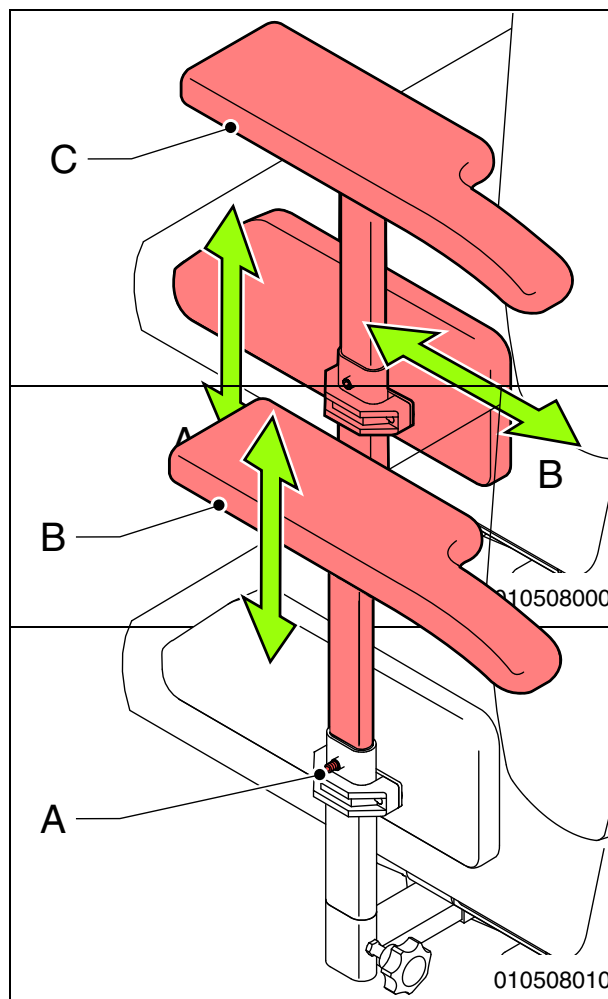
- Loosen set bolt (A) with an Allen key with a key width of 4 mm.
- Slide the armrest (B) to the desired height.



Make sure that the arms are well supported, without the shoulders being pushed upward.

- Tighten the setscrew again.

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2.6.2 Adjusting the depth of the armrest

- See fig. 010508020.

To adjust the depth of the armrest, the chair should be raised in order to be able to reach the depth-adjustment screws.

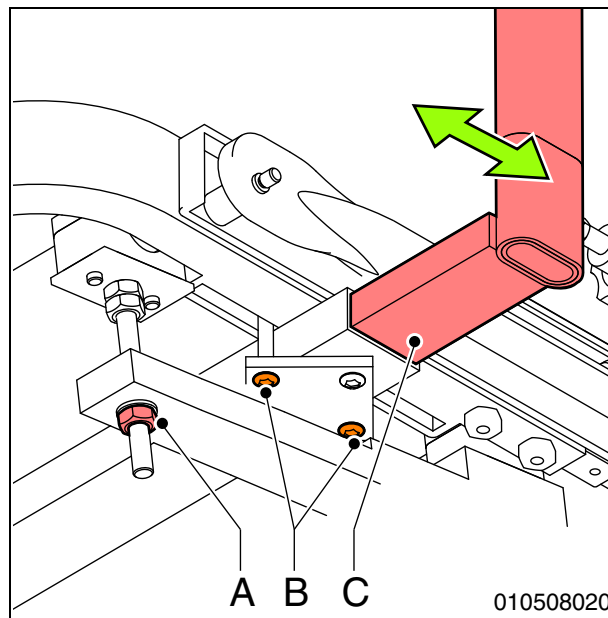
The chair should be raised as follows (you have to leave the chair first):

Using a 13 mm spanner, loosen the nuts (A) a number of turns in order to raise the chair sufficiently to be able to loosen the Allen bolts (B).

Now, you can adjust the depth of the armrests.



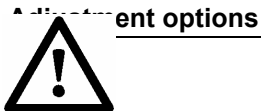
Make sure the chair is supported by a wooden block or something similarly strong, so that the chair cannot come down and risking someone's fingers from getting jammed underneath.



The depth adjustment of the armrests should be done as follows:

- Loosen the Allen bolts (B) on both sides of the chair with an Allen key with a key width of 4 mm.
- Slide the armrests (C) in the desired position.
- Tighten the Allen bolts again.

Note that the adjustment is carried out equally on the left and the right side.



- Take away the supports from under the chair and lower the chair to the ground.
- Securely tighten both nuts again.

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2.7 Adjusting the height of the side panel

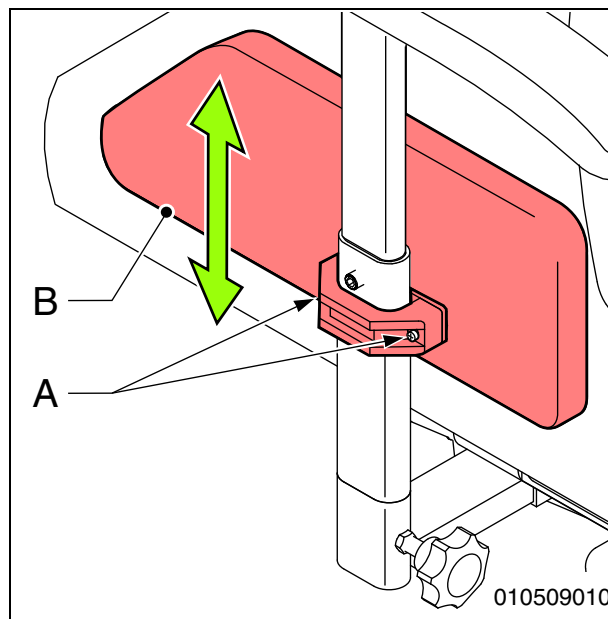
- See fig. 010509010.

The side panels should provide sufficient support and sufficient freedom of movement so that you can assume a comfortable position in the chair.

The side panels can be adjusted in height.

- The height adjustment can be done as follows:
- Flip off the studs from the inside of the side panel.
- Loosen both crosshead screws (A) a couple of twists, using a Phillips screwdriver PH 2. Keep the nuts from turning by holding them on the inside with a socket wrench with a key width of 8 mm.
- Slide the side panel (B) at the desired height.
- Tighten the crosshead screws securely again.
- Replace the studs.

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2.8 Adjusting the headrest (option)

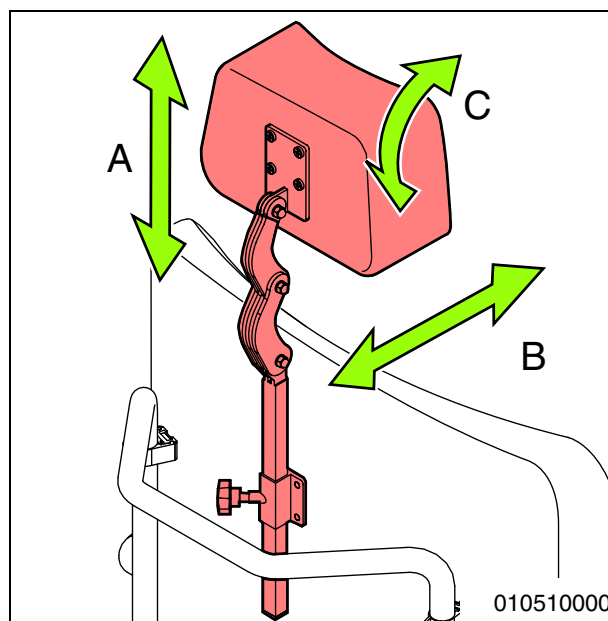
- See fig. 010510000.

A headrest can be attached to the back of the backrest.

The headrest can be adjusted in:

- A. Height.
- B. Depth.
- C. Angle.

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2.8.1 Adjusting the height of the headrest

- See fig. 010510010.

The height adjustment can be done as follows:

- Loosen the wing nut (A) a few turns.
- Slide the headrest (B) to the desired height.
- Securely tighten the wing nut again so that the headrest cannot shift.

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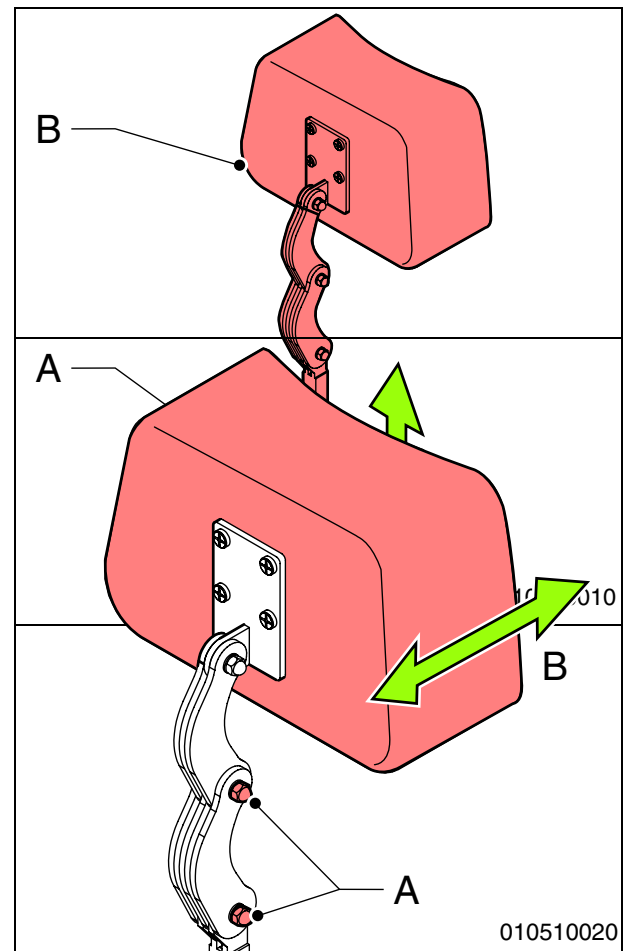
2.8.2 Adjusting the depth of the headrest

- See fig. 010510020.

The depth adjustment should be done as follows:

- Loosen the two bolts (A) a bit with a spanner with a key width of 10 mm.
- Set the desired headrest depth (B).
- Tighten the two bolts securely again.

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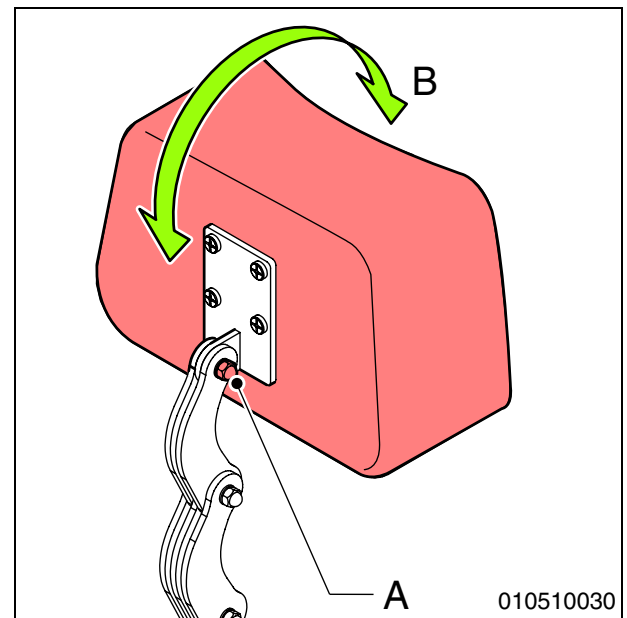
2.8.3 Adjusting the angle of the headrest

- See fig. 010510030.

The adjustment of the angle should be done as follows:

- Loosen the bolt (A) a bit with a spanner with a key width of 10 mm.
- Set the desired angle (B).
- Tighten the bolt securely again.

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2.9 Adjusting the calf strap

- See fig. 010511000.

The calf strap (A) serves to support the calves and is attached to the legrests. The calf strap can be removed to make transfer in and out easier.

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2.10 Adjusting the calf pad (option)

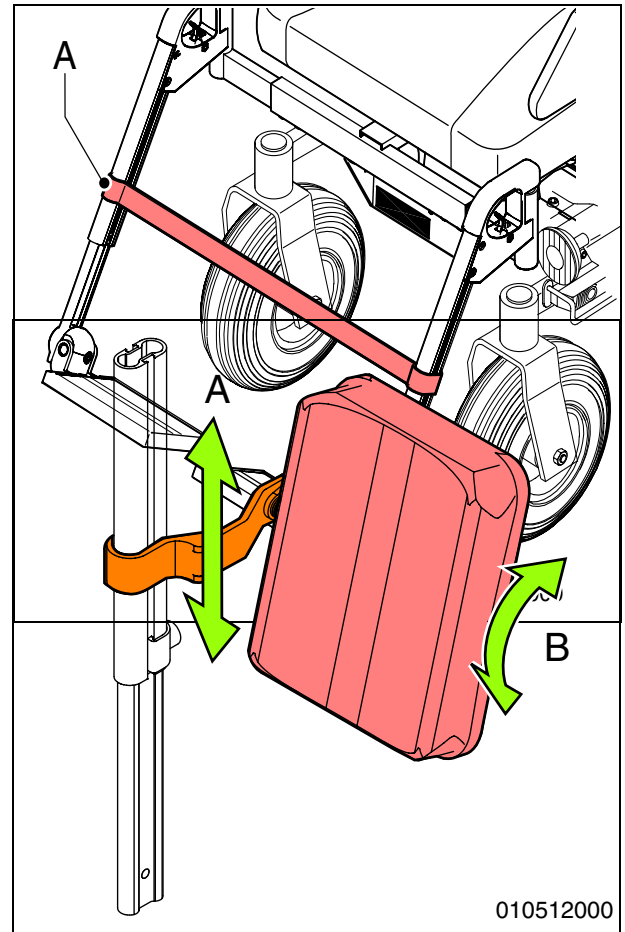
- See fig. 010512000.

The calf pad serves to support the calf and is placed on a leg support.

The calf pad can be adjusted in:

- A. Height.
- B. Angle.

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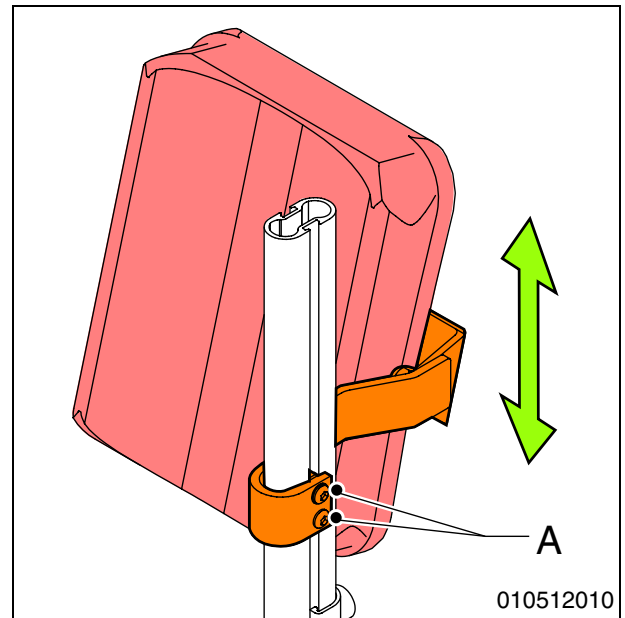
2.10.1 Adjusting the height of the calf pad

- See fig. 010512010.

The calf pad can be adjusted in height as follows:

- Loosen Allen screw (A) a few turns with an Allen key with a key width of 4 mm.
- Slide the calf pad up to the desired height.
- Tighten the Allen screw again.

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2.10.2 Adjusting the angle of the calf pad

- See fig. 010512020.

The angle of the calf pad can be adjusted as follows:

- Loosen nut (A) a few turns with a spanner with a key width of 13 mm.
- Place the calf pad (B) in the desired position.
- Tighten the nut again.

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2.11 Adjusting the position of the controller 'DX'

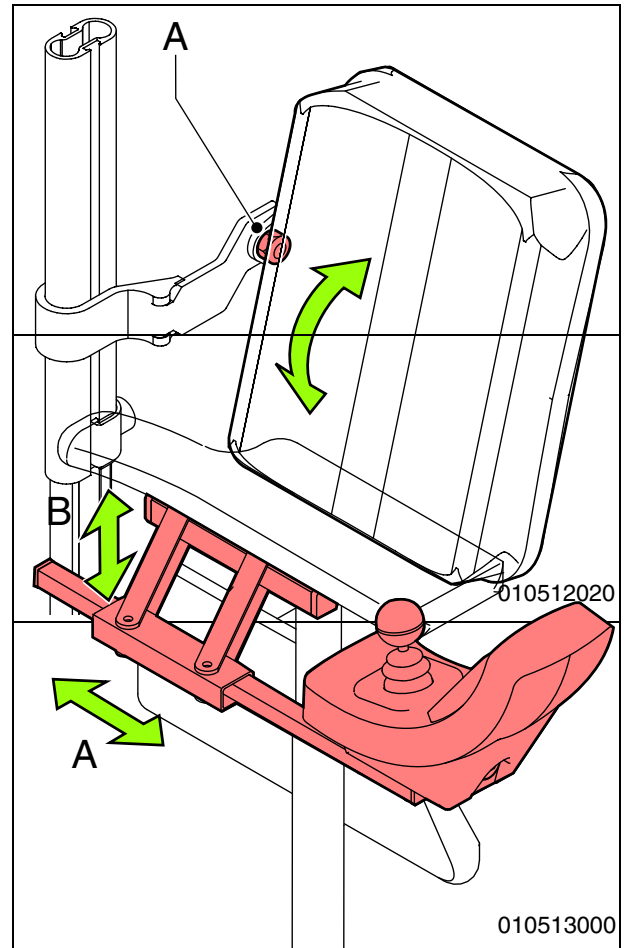
- See fig. 010513000.

The controller comprises all the components needed to operate the wheelchair.

On behalf of the comfort of the driver the controller can be adjusted in the following aspects:

- A. Depth.
- B. Height.

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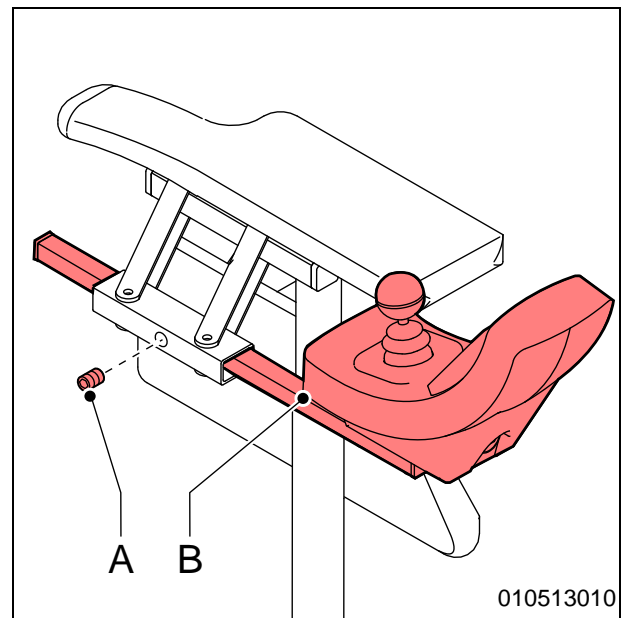
2.12 Adjusting the depth of the controller 'DX'

- See fig. 010513010.

The controller can be adjusted in depth as follows:

- Loosen setscrew (A) a few turns with an Allen key with a key width of 4 mm.
- Slide the controller (B) at the desired place (forward or backward).
- Tighten the setscrew again.

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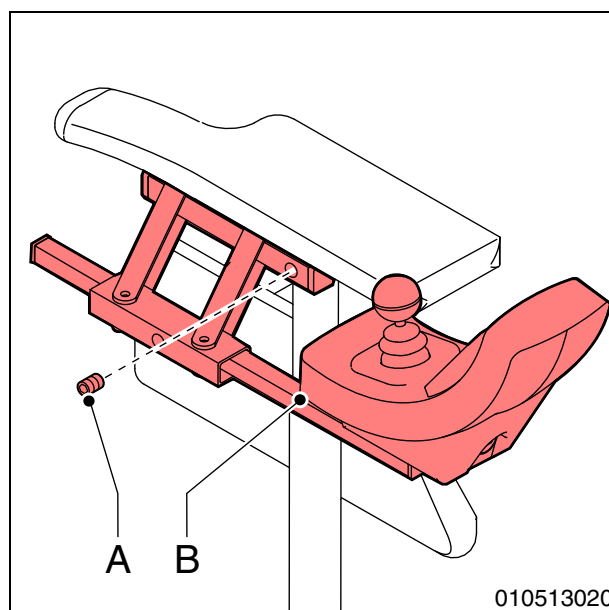
2.12.1 Adjusting the height of the controller 'DX'

- See fig. 010513020.

The controller can be adjusted in height as follows:

- **Loosen setscrew (A) a few turns with an Allen key with a key width of 3 mm.**
- **Adjust the controller (B) with its swing mechanism to the desired height.**
- **Tighten the setscrew again.**

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2.13 Safety belt (option)

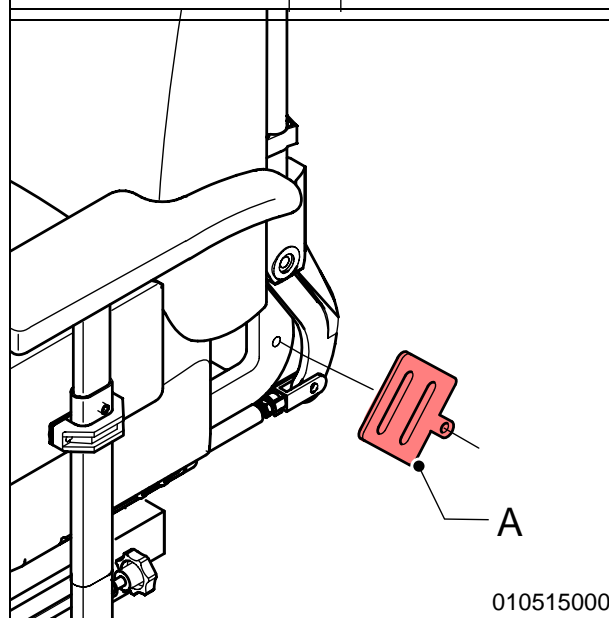
- See fig. 010515000

It is possible to equip the wheelchair with a safety belt. The safety belt gives extra sitting stability during normal use. Ask your dealer for information.

For the assembly of the safety belt do the following:

- **Fasten the belt buckle (A) with the aid of a bolt plus nut.**

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3 Maintenance

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3.1 Maintenance table

Everything that is used, should be maintained. This is also true for a wheelchair. For trouble-free use of the wheelchair, it should be regularly serviced by the dealer.

Below is indicated what needs to be checked, in what frequency and by whom.

Time	Description	To be executed by	
		User	Dealer
Daily	• Charging of the batteries after each use	X	-
Weekly	• Checking the tire pressure	X	-
Monthly	• Cleaning of the wheelchair	X	-
	• Cleaning of the upholstery (if necessary)	X	-
Annually	• Checking the electrical system	-	X
	• Checking the batteries	-	X
	• Checking the drive	-	X
	• Checking the mechanical parts	-	X
	• Checking the bearings	-	X
	• Checking the suspension	-	X
	• Checking the tires	-	X
	• Checking all fastenings and bolts; tighten if necessary	-	X

It is recommended to have your wheelchair serviced by your dealer at least once a year, or, in case of intensive use, once every six months.

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3.2 Batteries



For maintenance see the following documentation:

- **Regulations on the batteries.**
- **Owner's manual of the battery charger.**

Dry batteries:

The wheelchair has 'dry' gel batteries. These dry batteries (dry-fit) are entirely sealed and maintenance free.

Wet batteries:

- **Regularly check the liquid level by removing the caps on the batteries:**
once every two weeks in summer;
once a month in winter.
- **The level of the liquid should be between 5 and 10 mm above the plates in every cell.**
If the level has dropped too far, the liquid will have to be replenished after charging.



- **To replenish, only use distilled water.**
- **When recharging, gases are given off. Therefore, only recharge the batteries in a well-aired space.**
- **Do not touch the battery acid: it will burn the skin.**
If any battery acid is spilled onto the skin, rinse it immediately with plenty of water.
- **Make sure not to spill any battery acid onto the clothing: it will burn through clothing..**

A sticker shows the connection diagram of the batteries. This sticker is placed on the inside of the lid of the battery box.



- **See to it that the batteries are always well charged.**
- **Do not use the wheelchair if the batteries are almost depleted. This is bad for the batteries and you have a risk of coming to an unintended standstill.**
- **Since wet batteries require more maintenance, it is recommended not to use this type.**
- **If the batteries need to be replaced, it is preferred to place dry batteries in the battery**

box..

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3.2.1 Replacing the batteries

- See fig. 010701010.

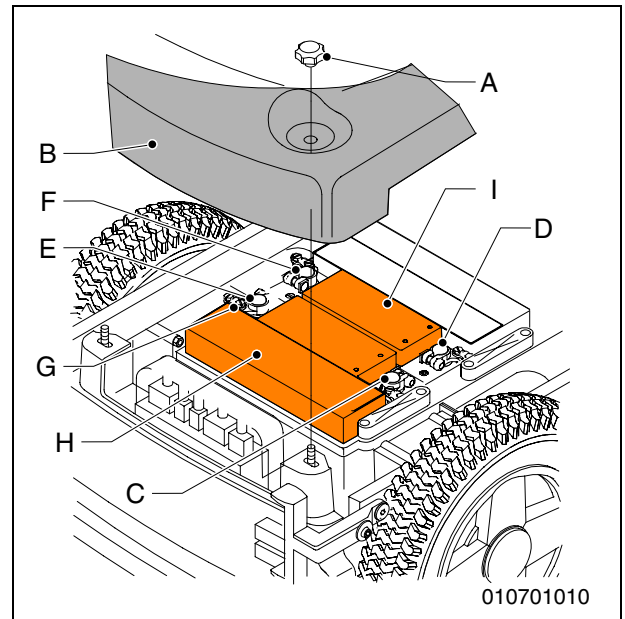
If the capacity of the batteries is reduced to the extent that the wheelchair can only make very short trips, or even none at all, the batteries are at the end of their lifespan. Replace them as soon as possible.



- **Contact your dealer who can advise you what type of batteries are best suitable for the wheelchair.**
- **Avoid damage to the batteries when replacing them: this may cause the batteries to start leaking.**

The batteries should be replaced as follows:

- **Switch off the wheelchair.**
- **Switch off the automatic safety fuse. See 'Automatic safety fuse' and 'Malfunctions'.**
- **Loosen the caps (A).**
- **Raise the lid (B) a little at the back, and carefully slide it off the battery box.**
- **Loosen the bolt from the negative (-) pole (C) and remove the battery clamp from the battery pole.**
- **Now loosen the bolt from the positive (+) pole (D) and remove the battery clamp from the battery pole.**
- **Then loosen the bolts from the battery clamps (E and F) from the power cable (G) and remove the cable.**
- **Lift the back battery (H) from the battery box using the carrying belts.**
- **Slide the front battery (I) to the back, and take it out of the battery box as well.**



New batteries are placed in the reverse order.



As soon as the new batteries are placed and the battery box is closed, the batteries must be charged.

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3.2.2 Cleaning the batteries

Dry batteries:

These are in principle maintenance free. Nonetheless, attention must be paid to the following:

- **Keep the batteries clean and dry: dirt and water can cause a leak, so that the capacity of the batteries will decrease.**
- **Cleaning the poles: after cleaning, grease them with acid-free Vaseline.**
-

Wet batteries:

These require maintenance:

- **See 'Battery maintenance'.**
- **They should be cleaned in the same way as dry batteries.**



Never completely deplete the batteries! This can seriously damage the batteries and considerably decrease their lifespan.

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3.3 Wheels

For the proper functioning of the wheelchair it is very important that the tires are kept at the correct pressure.

Soft tires yield less optimal driving for the wheelchair. It also costs more energy to move the wheelchair, putting a heavier load on the batteries. Moreover, tire wear when driving on soft tires is unnecessarily great.

For the right tire tension, see 'Product specifications'.



Note when filling the tires that the pressure never exceeds the maximum specified value provided in the table 'product specification', or as indicated on the side of the tire. In case of doubt contact the dealer / supplier.

For inspection of the tires, see 'maintenance table'.

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3.3.1 Tire repair drive wheels

When repairing the inner tube of a drive wheel, the neutral should be switched off, so that the wheel does not turn along.

Repairing a leaking tire should be done as follows:

- **Support the wheelchair so that the wheel is elevated.**
- **Let the tire run empty completely by pulling out the valve.**
- **Using tire levers, pull the front of the tire across the edge of the rim.**
- **Carefully pull the inner tube across the edge of the rim.**
- **Push the valve from the opening in the rim.**
- **Pull the inner tube from the tire for repair or replacement.**
- **Repair the inner tube or replace it.**

Now, the repaired or new inner tube should be placed as follows:

- **Put the valve of the inner tube through the opening in the rim.**
- **Press the inner tube into the tire.**
- **Place the tire around the rim.**
- **Use tire levers to place the tire around the rim: be careful not to damage the inner tube with the tire levers.**



The inner tube must not become jammed between the rim and the tire.

- **Pump up the inner tube, see 'technical data'.**
- **Remove the support from the wheelchair.**
The wheelchair is ready to drive again.

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3.3.2 Replacing the tire of the drive wheel

When replacing a tire of a drive wheel neutral should not be switched off, so that the wheel does not turn along. The tire should be replaced as follows:

- **Support the wheelchair so that the wheel is elevated.**
- **Let the tire run empty completely by pulling out the valve.**
- **Using tire levers, pull the front of the tire across the edge of the rim.**
- **Carefully pull the inner tube across the edge of the rim.**
- **Push the valve from the opening in the rim.**
- **Pull the inner tube from the tire.**
- **The whole tire can now be removed.**

Now the tires (with repaired or new inner tube) should be assembled as follows:

- **Place one side of the tire around the rim.**
- **Put the valve of the inner tube through the opening in the rim and press the inner tube into the tire.**
- **Place the tire around the rim.**
- **Use tire levers to place the tire around the rim: be careful not to damage the inner tube with the tire levers.**



The inner tube must not become jammed between the rim and the tire.

- **Pump up the inner tube, see 'technical data'.**
- **Remove the support from the wheelchair.**
The wheelchair is ready to drive again.

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3.3.3 Replacing the drive wheel

- **See fig. 020702040.**

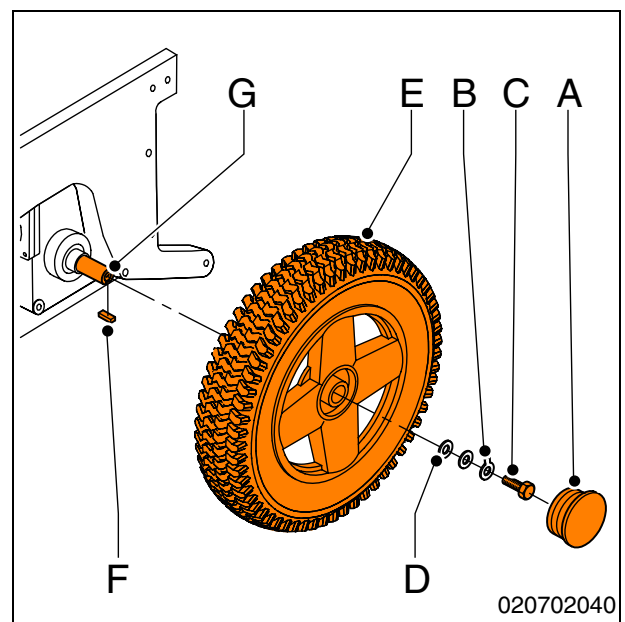
When the rim of a drive wheel is replaced, the neutral should not be switched off, so that the wheel does not turn along.

Replace this as follows:

- **Support the wheelchair so that the wheel is elevated.**
- **Remove the cap (A) with a screwdriver.**
- **Bend back the lip on the locking plate (B).**
- **Using a box spanner with a key width of 17 mm, remove bolt (C) with the washers that holds the rim onto the drive unit.**
- **Pull the wheel (E) off the shaft.**



- **When the wheel is removed, a key (F) may come loose or remain in the rim. This key must be slid into the key way of the outgoing shaft of the drive unit.**
- **If there is no key, this will cause drive problems.**
- **Behind the key, a bush is slid onto the outgoing shaft. This bush does not have to be removed.**



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Now the new wheel can be assembled as follows:

- **Put a layer of grease on the outgoing shaft (G) of the drive unit.**
- **Slide the wheel onto the outgoing shaft of the drive unit.**



Attention:

- **Make sure that the notch in the rim falls over the key.**
- **The locking plate has to be replaced: do not use the old one again.**

- **Screw the bolt with the rings and the locking plate in the thread hole of the outgoing shaft of the drive unit and tighten the bolt with the box spanner.**
- **Bend back the lip on the locking plate, so that the bolt is prevented from being unscrewed.**
- **Remove the support from the wheelchair.**
The wheelchair is ready to drive again.

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3.3.4 Replacing rim of drive wheel

To replace the rim of the drive wheel, see:
'repairing the tire of the drive wheel';
'replacing the tire of the drive wheel';
'replacing the drive wheel'.

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3.3.5 Tire repair swivel castors

Repairing a leaking tire should be done as follows:

- Support the wheelchair so that the wheel is elevated.
- Let the tire run empty completely by pulling out the valve.
- Loosen the locking nut using a box spanner with a key width of 13 mm and stop the bolt with the same box spanner.
Now the wheel can be slid out of the fork. Watch the washers that come free: collect them so they will not be lost.
- Loosen the Allen bolts from the rim halves using an Allen key with a key width of 5 mm.
Now the rim halves can be taken apart.
This released both tires and the valve can be slid out of the rim half.
- Remove the inner tube from the tire.
- Repair the inner tube or replace it.

Now the tire (with repaired or new inner tube) should be assembled as follows:

- Place the (repaired or new) inner tube in the tire.
- Put the valve through the opening in the rim half.
- Slide the other rim half over the hub of the wheel.
- Screw both rim halves with the bolts and locking nuts to each other.



Attention:

- **Locknuts may not be used again – use new ones when replacing.**
- **The inner tube must not be jammed between the two rim halves.**

- Tighten the locking nuts and hold the bolts.
- Pump up the tire.
- Replace the wheel in the fork, in the reverse order of disassembly.

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3.3.6 Replacing the swivel castor

- See fig. 020703030.

Replace the swivel castor as follows:

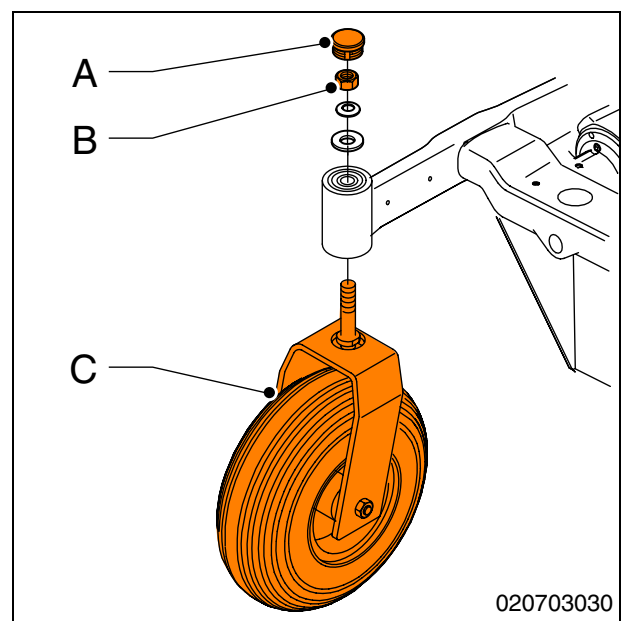
- **Support the wheelchair so that the swivel castor is elevated.**
- **Remove the plastic cover cap (A) with a screwdriver.**
- **Loosen nut (B) using a box spanner with a spanner width of 19 mm.**
- **Now the complete swivel castor (C) can be removed from the ball head.**
Watch the rings under the nut so that they are not lost.

Now the (new) swivel castor can be placed in the reverse order.



Adjusting the ball head:

- **Tighten nut (B) until the fork starts moving.**
This way, the front wheel is prevented from vibrating.



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3.3.7 Replacing the wheel of the swivel castor

- See fig. 020703040.

Replace the wheel of the swivel castor as follows:

- **Support the wheelchair so that the wheel is elevated.**
- **Loosen the shaft (A) and the locking nut (B) with two open-end spanners with a spanner width of 13 mm.**
- **Hold onto the wheel (C) and remove the shaft with the rings.**
- **The wheel can now be removed from the fork.**

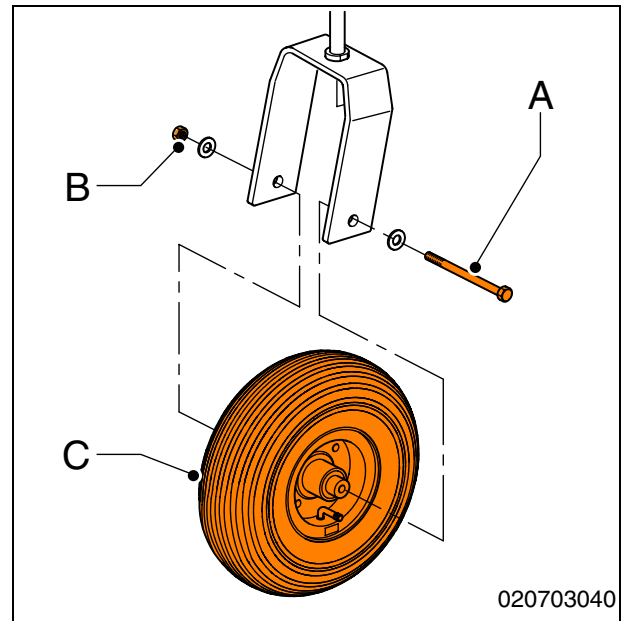
Now the new wheel can be placed in reverse order.



Attention:

- **The locknut may not be used again – use a new one when replacing.**
- **The locking nut must just be screwed on: the screw thread of the shaft must be clearly visible through the locking ring.**

If the wheel is not placed properly this can lead to very dangerous situations for the user.



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After the assembly of the wheel the support can be removed from the wheelchair: the wheelchair is now ready to operate again.

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3.3.8 Replacing bearings of ball head

- See fig. 020703050.

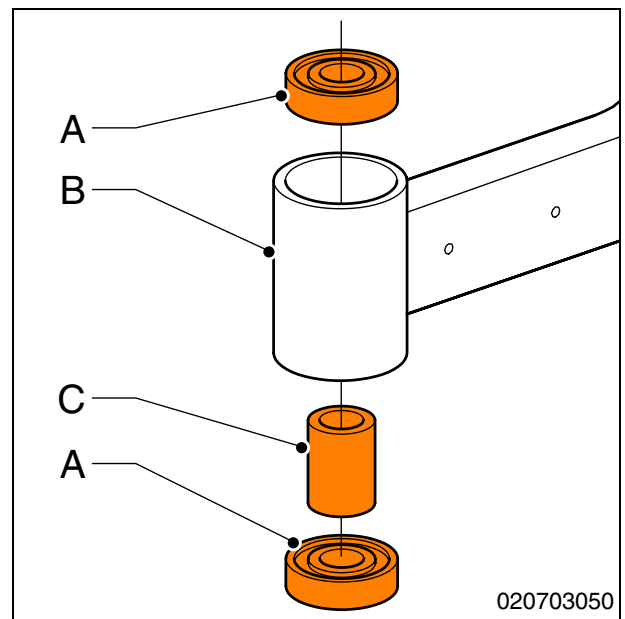
The bearings of the ball head should be replaced as follows:

- **Support the wheelchair so that the swivel castor is elevated.**
- **Disassemble the complete swivel castor, see 'replacing swivel castor'.**
- **Disassemble the bearings (A) from the bush (B).**
- **Make sure that the spacing bush (C), which is mounted in-between the bearings, is not lost.**
- **Check the bearings for wear or damage.**

Now the (new) bearings can be placed in reverse order.

After the assembly of the swivel castor the support can be removed from the wheelchair: the wheelchair is now ready to operate again.

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3.3.9 Replacing the fork of the swivel castor

The fork of the swivel castor must be replaced as follows:

- **Support the wheelchair so that the swivel castor is elevated.**
- **Remove the wheel from the fork; see 'replacing the wheel of the swivel castor'.**
- **Remove the fork from the ball head, see 'replacing swivel castor'.**

The (new) fork can be placed in reverse order.

- **After placing the complete swivel castor remove the support.**
- **The wheelchair is ready to operate.**

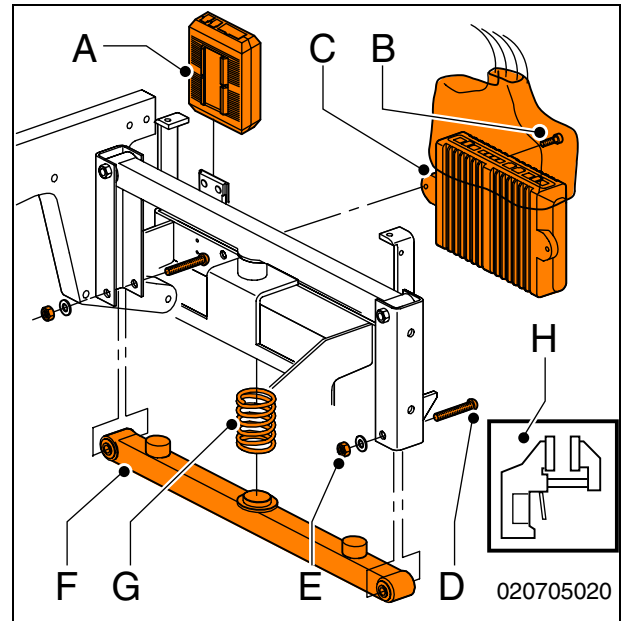
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3.4 Replacing the spring

- See fig. 020705020.

The spring should be replaced as follows:

- Support the wheelchair under the battery tray in such a way that both drive wheels remain on the ground. If the height of the seat can be adjusted electrically, it should be put into its topmost position.
- Remove the cover from the battery tray and the rear cover. See 'mounting and removing the covers'.
- Slide the CLAM module (A) up and off the holder.
- Loosen bolts (B) using an Allen key with a key width of 4 mm and remove the power module (C).
- Loosen the bolts (D) using an Allen key with a key width of 5 mm and stop the locknuts (E) using a spanner with a key width of 13 mm.
- Remove the rod (F), together with the spring (G) that is to be replaced.



Attention!

- *The spring is under tension and could suddenly fly off.*
- *The locknuts may not be used again – use new ones when replacing.*

The spring can now be replaced as follows:

- Mount the rod left or right and push the bolt through the holes.
 - Place locknut and tighten it finger tight.
 - Mount the spring in place.
 - Mount the clamp (H) over the upper and lower rods.
 - Tighten the clamp to such an extent that a second can be mounted to fix the lower rod (F).
 - Tighten both bolts (D).
 - Remove the clamp (H).
 - Mount the power module.
 - Mount the CLAM module.
 - Mount the covers.
 - Remove the support.
- The wheelchair is ready to operate.

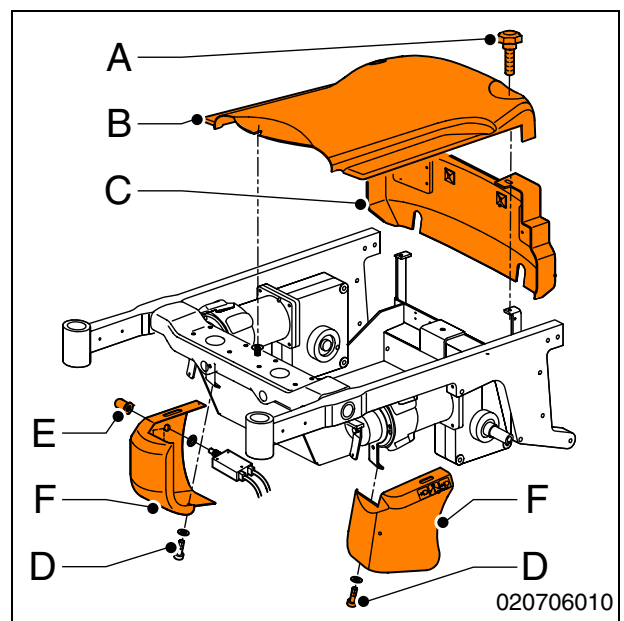
EBAPUM-020705020-nl.doc

3.5 Removing the covers

- See fig. 020706010.

The covers should be removed as follows:

- Loosen the caps (A).
 - Raise the lid (B) a little at the back, and carefully slide it off the battery box.
 - Lift off the back cover (C), which comes loose when the caps are unscrewed. Remove the connector for the lighting.
 - Loosen the Allen bolts (D) with the washers from the protective cover, using an Allen key with a key width of 4 mm.
- If necessary, take out the automatic fuse as well, from the right-hand side cover, by unscrewing nut (E).
- Remove the protective covers (F).



The covers should be assembled in reverse order.

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3.6 Replacing drive and components

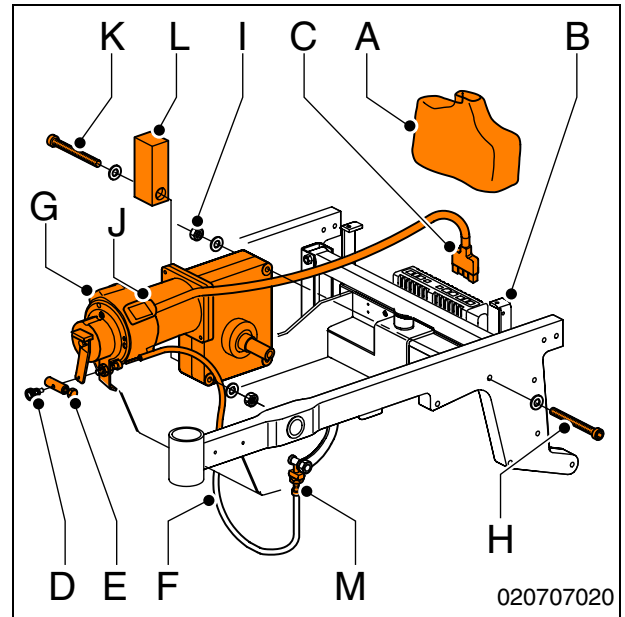
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3.6.1 Replacing drive unit

- See fig. 020707020.

The drive unit should be replaced as follows:

- Support the wheelchair under the battery tray in such a way that both drive wheels remain on the ground.
- Remove the cover from the battery tray. See 'removing the covers'.
- Slide the protective cover (A) from the power module (B) up, in order to gain access to the connectors.
- Pull the connector (C), from the connecting cable of the relevant drive unit, off the power module.
- Cut through all cable-wrapping tape that is holding this cable.
- Remove the side cover. See 'removing the covers'.
- Cut off the little tun (D) from the cable.
- Loosen the nipple (E) using a screwdriver. After this, the inner cable (F) can be pulled away from the neutral of the vacuum brake (G).
- Remove the drive wheel; see 'replacing drive wheel'.
- Loosen the bolts (H) with the washers, using an Allen key with a key width of 6 mm and stop the locknuts (I) using a spanner with a key width of 13 mm.
- Hold securely to the drive unit (J) (support this if necessary) and carefully remove the three bolts with their rings with which the drive unit is attached to the side frame.
- The drive unit can now be removed.
- Loosen the bolt (K) with the washers, using an Allen key with a key width of 6 mm and stop the locknut using a spanner with a key width of 13 mm. Remove the sliding block (L).



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The (new) drive unit can be placed in reverse order.

- Use new cable-wrapping tapes to fasten the connecting cable to the drive unit.
- After placing the drive unit remove the support.
- Adjust the cable of the neutral by turning the adjusting nipples (M) in such a way to make the neutral operated correctly.

The wheelchair is ready to operate.



Attention:

- **The locknuts may not be used again – use new ones when replacing.**



In connection with agreements concerning guarantees with the supplier of the drive unit, it is NOT permitted to take the drive unit apart: every part of the drive unit delivered loose will be immediately returned and the guarantee stipulations will become null and void.

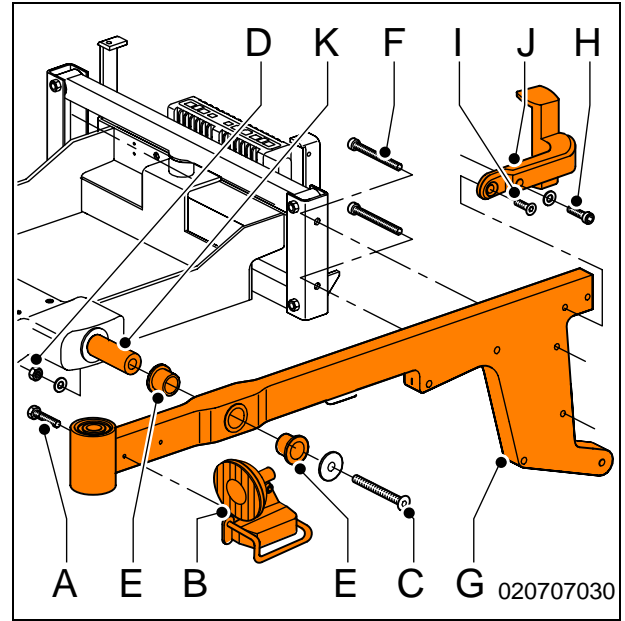
EBAPUM-020707020-nl.doc

3.6.2 Replacing the side frame

- See fig. 020707030.

The side frame should be replaced as follows:

- Support the wheelchair under the battery tray in such a way that both drive wheels remain on the ground.
- Remove swivel castor, see 'replacing swivel castor'.
- Remove the drive unit; see 'replacing drive unit'.
- Cut through the cable-wrapping tape for the cable and the lighting.
- Loosen bolts (A) using a spanner with a key width of 7 mm.
- Remove the lighting unit (B).
- Loosen the bolt (C) using an Allen key with a key width of 5 mm and stop the nut (D) using a spanner with a key width of 13 mm.
Watch the bearing bushes (E) and the washers that come loose at the same time.
- Loosen the bolts (F) using an Allen key with a key width of 6 mm.
- Remove the side frame (G).
- Loosen bolts (H and I) using an Allen key with a key width of 5 mm, in order to be able to remove the transport locking system (J).



A (new) side frame should be placed as follows.

- Apply a layer of grease to the hinge pin (K) and the bearing bushes.
- Slide the side frame with the washers and the bearing bushes onto the hinge pin.
- Follow the assembly with the placement of the drive unit; see 'replacing drive unit'.
- Install the lighting and fasten the lighting cable to the side frame using a new cable-wrapping tape.
- Mount the swivel castor, see 'mounting swivel castor'.

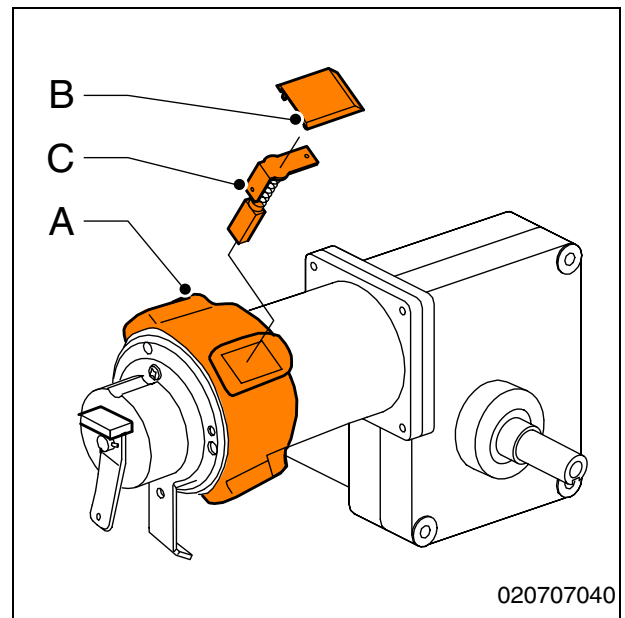
EBAPUM-020707030-nl.doc

3.6.3 Replacing carbon brushes

- See fig. 020707040.

The carbon brushes of the drive units should be replaced as follows:

- **Remove the drive unit; see 'replacing drive unit'.**
- **Slide the rubber cover (A) to the back onto the drive unit.**
- **Slide the cover (B) of the carbon brush holder backward.**
This way, the carbon brush (C) becomes accessible and can be taken out.
- **Inspect the carbon brush and replace it if necessary.**
- **Also check the collector on the rotor of the motor through the open carbon brush holder.**



- ***In case of serious wear of the collector the drive unit must be entirely replaced.***
- ***Do NOT make repairs on the drive unit, because this will make the guarantee null and void.***

- **Mount the carbon brush into the holder. This can be done in one way only!**
- **Mount the sliding cover onto the carbon-brush holder.**
- **Replace the drive unit; see 'replacing drive unit'.**



Make sure that the sliding plugs of the connecting wires, on the drive unit, are properly connected.

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3.6.4 Replacing the neutral cable

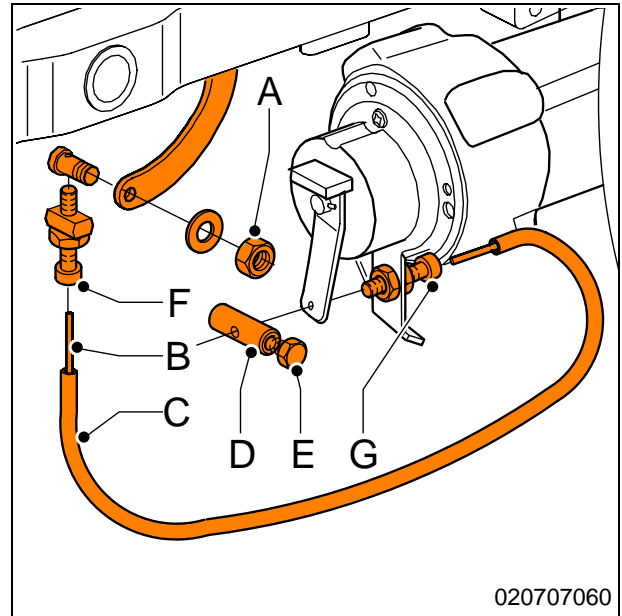
- See fig. 020707060.

The neutral cable should be replaced as follows:

- **Remove the side cover. See 'removing the covers'.**
- **Loosen nut (A) with a spanner with a key width of 10 mm.**
After this, the inner cable (B) of the neutral can be pulled away from the outer cable (C) from the side of the drive unit.
If necessary, the outer cable can also be removed now.
- **Take the nipple (D) from the inner cable by unscrewing screw (E) using a screwdriver.**
- **A new inner and/or outer cable should be placed in reverse order.**



Grease the cable lightly before pushing it into the outer cable, in order to easily move it in and out and protect it against oxidation.



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- **Carefully adjust the neutral, so that it will operate perfectly.**
This is done by adjusting the adjusting nipples (F or G).

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3.6.5 Replacing the parking brake

If the parking brake of a drive unit is faulty, the entire drive unit must be replaced.
It is not permitted to replace the parking brake.

With respect to replacing the parking brake the same instructions apply as for replacing the drive unit, see 'replacing drive unit'.



In connection with agreements concerning guarantees with the supplier of the drive unit, it is NOT permitted to take the drive unit apart: every part of the drive unit delivered loose will be immediately returned and the guarantee stipulations will become null and void.

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3.7 Electronic components

The Puma Kinetic is driven by the extensive 'DX' electronics, which comprise the following components:

- **Controller**
- **Power module in the carrier**
- **LM/CLAM module in the carrier**



Before doing work on the electronic system the automatic safety fuse must be switched off by pushing the button on the side of the wheelchair.

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3.7.1 Replacing the controller 'DX'

- See fig. 020708010.



Before doing any work, switch off the automatic safety fuse by pushing the button on the side of the wheelchair.

The controller 'DX' should be assembled as follows:

- Pull the plug (A) from the controller, by pushing in the lock (B) and simultaneously pulling the plug from the controller.
- Loosen both screws (C) and the rings with a Phillips screwdriver PH-2.
- The controller 'DX' (D) can now be removed.



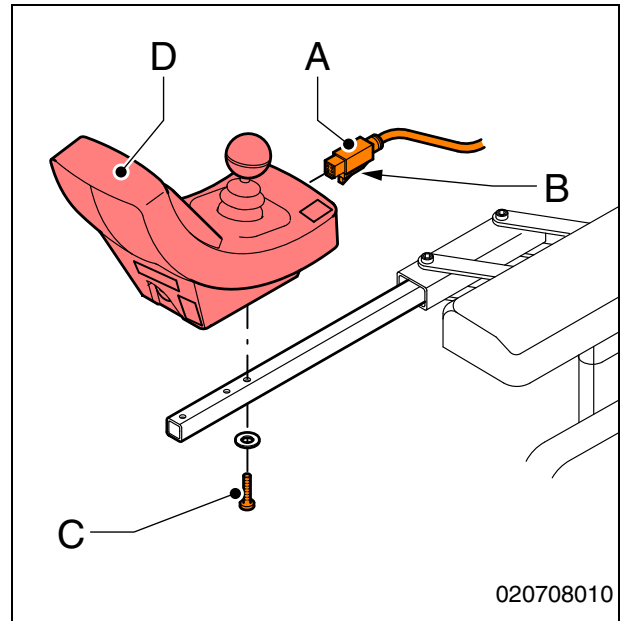
Attention:

- **The controller must be programmed for this type of wheelchair.**

A (new) controller should be assembled in reverse order.

After assembly push the button of the automatic fuse in: the wheelchair is now ready to operate.

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3.7.2 Replacing the power module 'DX'

- See fig. 020708020.



Before doing any work, switch off the automatic safety fuse by pushing the button on the side of the wheelchair.

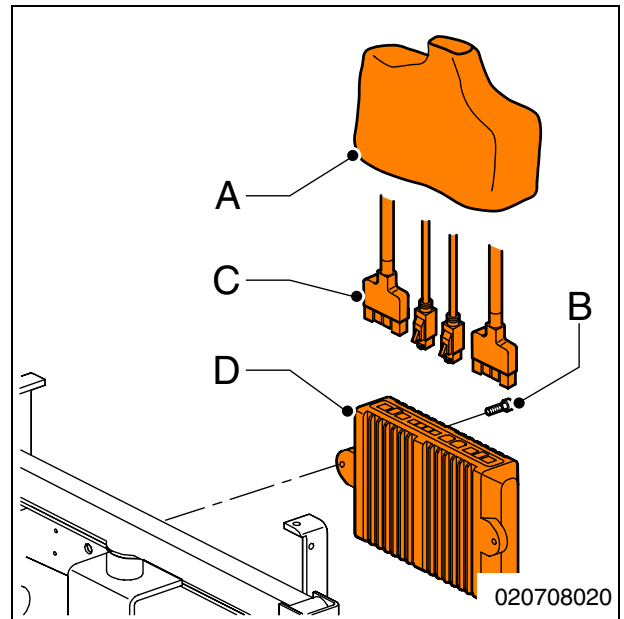
The power module 'DX' should be replaced as follows:

- Remove the cover from the battery tray and the rear cover. See 'mounting and removing the covers'.
- Slide the protective cover (A) up and away from the power module 'DX' (D).
- Pull the connectors (C) from the power module 'DX'.
- Loosen both Allen bolts (B) using an Allen key with a key width of 4 mm.
- Remove the power module 'DX'.
- Turn the controller on and off again to prepare the wheelchair for operation.

A (new) power module 'DX' should be assembled in reverse order.

After assembly push the button of the automatic fuse in: the wheelchair is now ready to operate.

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3.7.3 Replacing the LM / CLAM module

- See fig. 020708030.

The module should be replaced as follows:

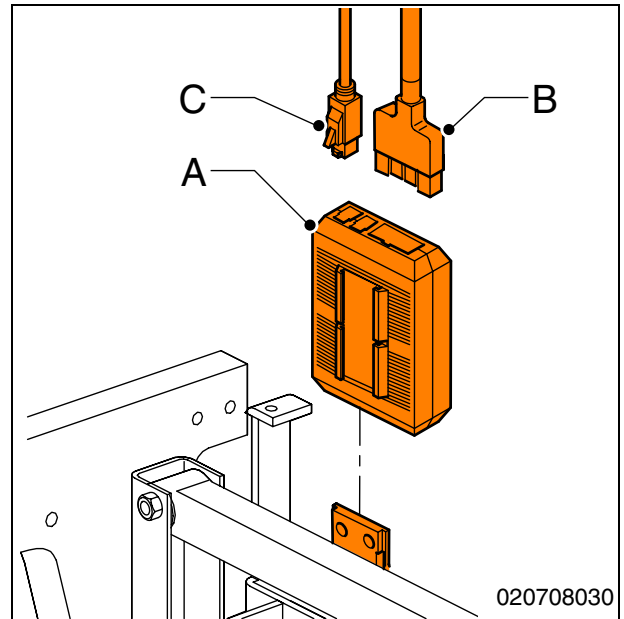
- **Remove the cover from the battery tray and the rear cover. See 'mounting and removing the covers'.**
- **Pull the connectors (B and C) from the module.**
- **Slide the module (A) up and off the holder.**
- **A new module should be placed in reverse order.**



Attention:

- **Never replace a LM module before a CLAM module and vice versa.**

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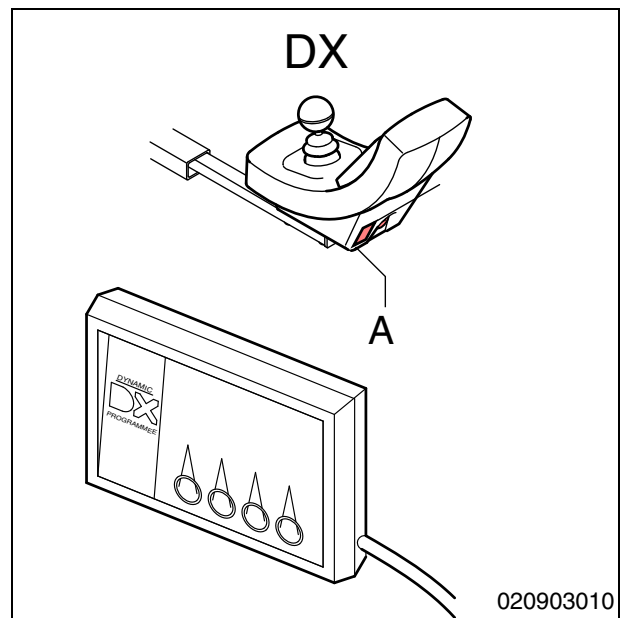
3.7.4 Hand programming unit 'DX'

- See fig. 020903010.

If the electric wheelchairs have a dynamic 'DX' drive, they all have a programming contact (A) in the controller. The plug of the programming module goes in here. This plug can be removed or put in at any time; this does not harm the program or the drive. The programming module starts up immediately if the drive is switched on.

It is possible that if the programming module is connected and the controller is switched on, an 'accessory fault' may be signaled. This fault signal can be ignored. But if the control is switched on and then the programming unit is connected and then there is a signal, this is a real fault signal.

The four driving programs and the companion's drive (driving program 6) can all be separately set on 10 parameters. As a standard only the speed parameters are different, but experts are free to coordinate the other parameters to the individual wheelchair user. Use the flowchart diagramming to program.



Changing the driving settings is entirely the responsibility of the individual: Handicare cannot be held liable for (inexpert) use of the HHP unit. Have adjustments done solely by experts.

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3.7.5 Menu structure programming unit 'DX'

- See flow chart 020903020.

The following tables show the standard settings, of which 9 parameters apply to driving.
These settings can be changed.

Settings rear wheel drive wheelchair:

Program settings / drive settings	1	2	3	4
Maximum speed forward	20%	40%	65%	100%
Accelerate forward	20%	20%	25%	30%
Delay forward	60%	60%	70%	70%
Maximum speed forward	20%	30%	40%	50%
Accelerate reverse	15%	15%	20%	25%
Delay reverse	20%	25%	30%	40%
Maximal running speed	16%	20%	25%	25%
Turn gear	15%	20%	25%	40%
Turn delay	20%	20%	25%	45%
Buffing joystick	40%	40%	40%	40%
Joystick choice	Local	Local	Local	Local
Joystick counter	Normal	Normal	Normal	Normal
Load compensation	72mΩ	72mΩ	72mΩ	72mΩ

The following parameters can be set:

- Maximum speed forward
- Accelerate forward
- Delay forward
- Maximum speed forward
- **Accelerate reverse**
- Delay reverse
- Maximal running speed
- Turn gear
- Turn delay
- Buffing joystick
Directions can be set using this (the higher the percentage, the slower the wheelchair reacts to the joystick).
By pressing 'Up' and 'Down' this setting can be changed.
- Joystick choice
Gives the choice of operating the wheelchair with the joystick in the controller, or by an external joystick.
Pressing on 'Swap' determines the choice:
 - Local: Joystick in controller.
 - Remote: external joystick.
- Joystick counter
The joystick can be placed both on the right and the left hand side.
By turning the joystick 180° one has created a situation in which steering forward becomes driving in reverse.
This is often used with chin steering.
- Spring compensation
This involves a possible correction to compensate a deviation in speed of the motors.
If, for example, the wheelchair with a joystick position deviates to the left, the 'spring compensation' should be set to the right. Only in very exceptional cases will such a correction be required.
- Load compensation
Changing this parameter can lead to very dangerous situations!
This setting determines the drive of the motor (internal resistance of the motor in Milliohms depending on the type of motor).
- Joystick calibration
When the wheelchair leaves the factory, the joystick is calibrated. If for some reason the joystick must be recalibrated, this should be done as follows:
 - Press Begin.
 - Move the joystick forcefully to the left or right along the outermost stop, and let the joystick come back into neutral position.
 - Press End.

15. Clam on (off), off (on)?

Clam stands for 'Combined Lighting and Actuator Module'. This module is able to control the lighting, the direction signals, and the 5 gear-motors.

Off: Switching off

On: Switching on

The above-mentioned functions can be operated via the controller if the Clam is 'Enabled'.

No gears can be operated if the Clam is 'Disabled'.



A fault signal will occur if the 'Clam' and the 'LM' (Lighting Module, see next paragraph) are switched on simultaneously ('Enabled').

By pressing 'Yes' this setting can be changed.

16. Lighting on/off

This is the lighting module. This module can only control the lighting and direction indicators.

If this module is installed, the setting can be placed on 'Enable'.

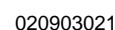


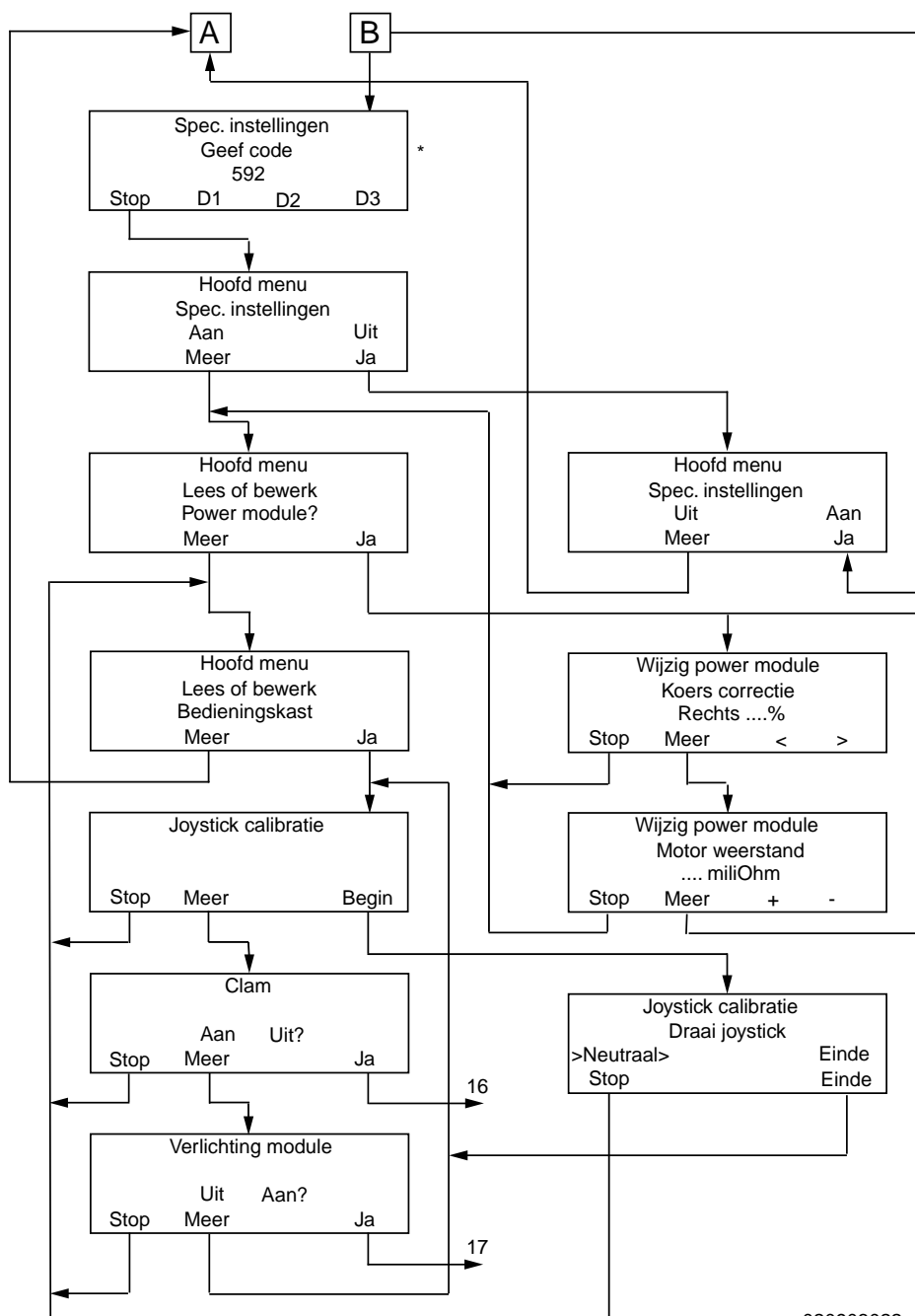
A fault signal will occur if the 'LM' and the 'Clam' (see above paragraph) are simultaneously on ('Enabled').

By pressing 'Yes' this setting can be changed

After pressing 'EXIT' the changes are stored. Then you return to the 'Main Menu'.

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* toets 5 in, druk op D1
toets 9 in, druk op D2
toets 2 in, druk op D3
druk op stop

3.8 Electric components

The Puma Kinetic can be equipped with the following electric adjustments:

- **Backrest**
- **High/low adjustment**
- **Tilt adjustment seating system**

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3.8.1 Replacing the backrest motor

- See fig. 020711010.

The motor should be replaced as follows:

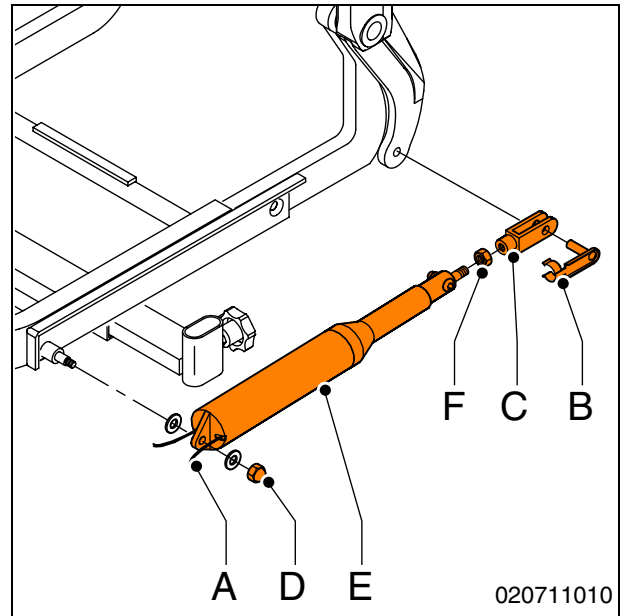
- **Switch off the wheelchair.**
- **Remove the seat cushion;** see 'replacing seat cushion'.
- **Pull the wiring (A) off the motor.**
- **Flip the lock clip (B) off the adjusting rod (C) of the motor.**
- **Pull the locking pin, which is attached to the lock clip, from the hinged joint.**



Attention:

- **Support the backrest while removing the locking pin.**

- **Loosen nut (D) using a (ring) spanner with a key width of 10 mm.**
- **The motor (E) can now be removed.**
- **Remove the fork by loosening the nut (F) using a (ring) spanner with a key width of 13 mm.**
- **A new motor should be placed in reverse order.**



*The electric connections may not be exchanged, because of the rotating direction of the motor.
brown is the + connection
blue is the – connection.*

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3.8.2 Replacing the high/low motor

- See fig. 020711020.

The motor should be replaced as follows:

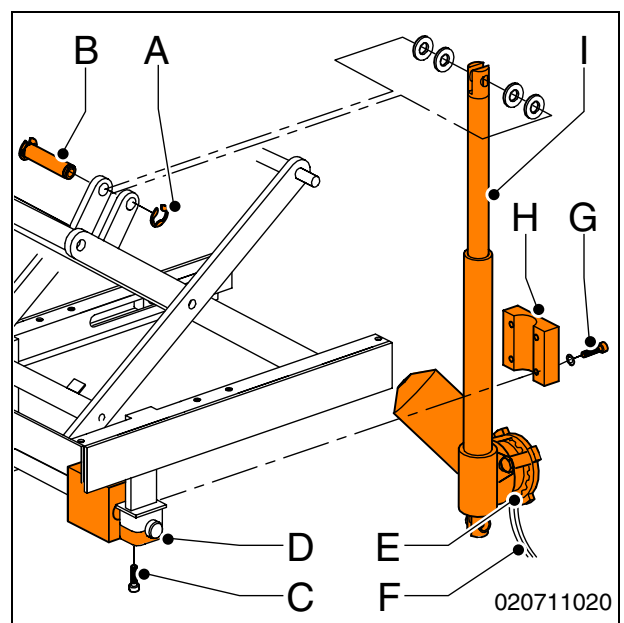
- **Put the chair in its lowermost position, so that the shears are fully folded.**



Attention:

- **If the chair is not in its lowermost position, the shears will remain under tension. Then, if the motor is loosened, the chair will drop and the shears will fold. This will risk hands or fingers to get caught.**

- **Tilt the chair, mechanically or electrically, fully backward.** See 'Adjusting the seating angle; or 'seat with electric tilting adjustment'.
- **Switch off the wheelchair.**
- **Remove the seat cushion;** see 'replacing seat cushion'.
- **Remove clip (A)**
- **Tap shaft (B) from the frame using a rubber hammer.**
Watch the washers that will come off: make sure they are not lost.



- Loosen Allen bolt (C) using an Allen key with a key width of 5 mm and remove the supporting block (D).
- Loosen the pull-relief bracket (E), with which the cable (F) is fastened.
- Pull the wiring off the motor.
- Loosen Allen bolts (G) using an Allen key with a key width of 5 mm and remove the clamping piece (H).
- Remove the motor (I) by taking out the adjusting bolt. Watch the washers that will come away while doing so.

A new motor should be placed in reverse order.



*The electric connections may not be exchanged, because of the rotating direction of the motor.
brown is the + connection
blue is the – connection.*



Attention:

- **When mounting, the spindle of the motor should be in its lowermost position.**



Attention:

- **The locknuts may not be used again – use new ones when replacing.**

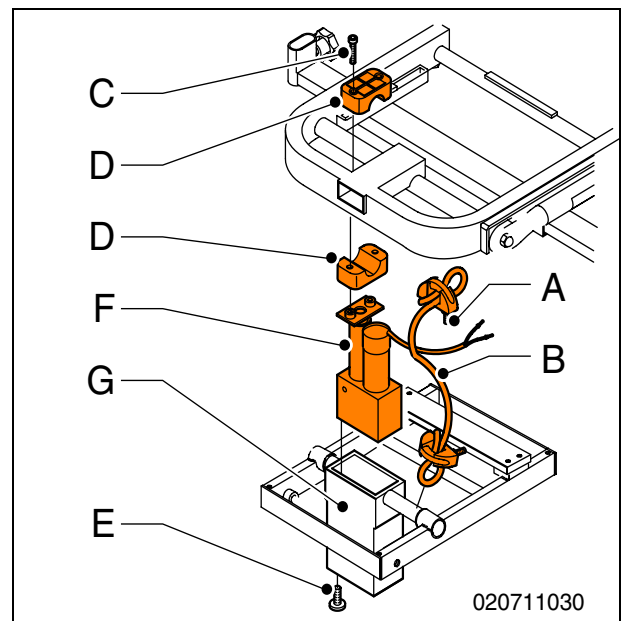
EBAPUM-020711020-nl.doc

3.8.3 Replacing the tilt-adjustment motor (electric HL version)

- See fig. 020711030.

The motor should be replaced as follows:

- Put the chair electrically in its uppermost position.
- Remove the seat cushion; see 'replacing seat cushion'.
- Cut through the cable-wrapping tape, with which the cable of the motor is fastened to the seat frame.
- Pull off the plug connection.
- Loosen nuts (A) on the cable clamp, using a spanner with a key width of 8 mm and remove the cable (B).
- Loosen the bolts (C) on the Stauff block (D), using an Allen key with a key width of 5 mm and remove the Stauff block.
- Tilt the chair fully backward.
- Loosen the bolts (B) at the bottom, using an Allen key with a key width of 3 mm and remove the motor (F) from the holder (G).



A new motor should be placed in reverse order.



Mount a new cable-wrapping tape around the cable of the motor, to fasten it to the seat frame.

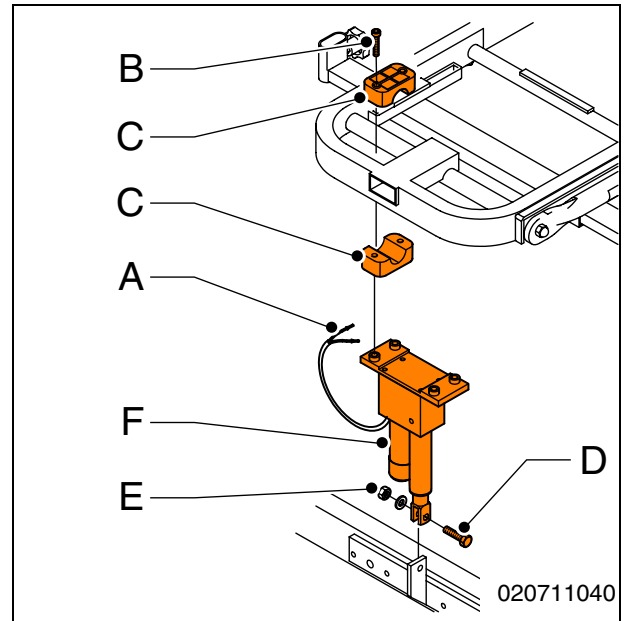
EBAPUM-020711030-nl.doc

3.8.4 Replacing the tilt-adjustment motor (mechanical HL version)

- See fig. 020711040.

The motor should be replaced as follows:

- Remove the seat cushion; see 'replacing seat cushion'.
- Cut through the cable-wrapping tape, with which the cable of the motor is fastened to the seat frame.
- Pull off the plug connection.
- Remove the contacts (A) from the socket, using an extraction tool (order no. AMP 876 047-1).
- Loosen the bolts (B) on the Stauff block (C), using an Allen key with a key width of 5 mm and remove the Stauff block.
- Tilt the chair fully backward.
- Loosen the bolt (D) using an Allen key with a key width of 4 mm and stop the locknut (E) using a spanner with a key width of 10 mm.
- Remove the motor (F).



A new motor should be placed in reverse order.



Attention:

- **Remember to replace the spacing washers..**



- **Mount a new cable-wrapping tape around the cable of the motor, to fasten it to the seat frame.**
- **The locknut may not be used again – use a new one when replacing.**



*The electric connections may not be exchanged, because of the rotating direction of the motor.
brown is the + connection
blue is the – connection.*

3.9 Lighting, standard

Bulb overview, standard

Function	Place	Model	Order number
Lighting	Front	Ball light, 24V, 2,4W, E10	00355.4211
Lighting	Rear	Pull-out lamp, 24V, 5W, E11	00355.4213
Flashing light	Front	Pull-out lamp, 24V, 5W, E11	00355.4213
Flashing light	Rear	Pull-out lamp, 24V, 5W, E11	00355.4213

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3.9.1 Replacing the front light

- See fig. 020710010.

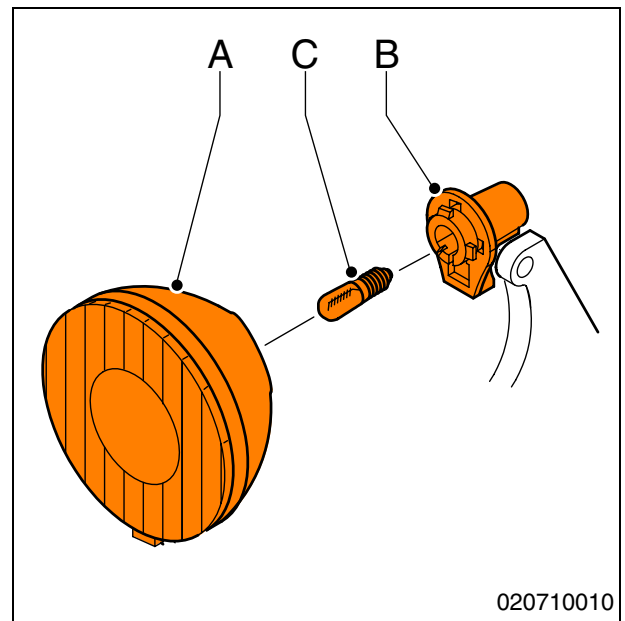
The front lights should be replaced as follows:

- **Manually turn the reflector (A) a bit to the left.**
- **Pull the reflector from the holder (B).**
The reflector is attached to the holder with a bayonet closure.
- **Unscrew the bulb (C) from the fitting.**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAPUM-020710010-nl.doc



020710010

3.9.2 Replacing rear light

- See fig. 020710020.

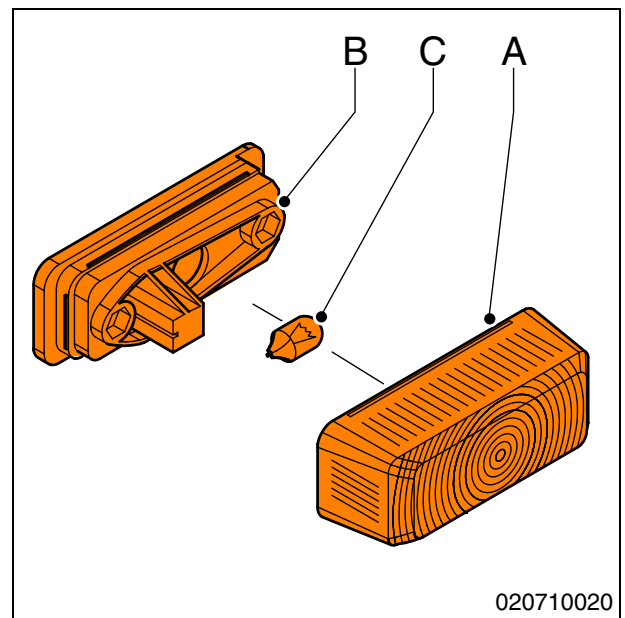
Rear lights should be replaced as follows:

- **Carefully flip the cap (A) up using a screwdriver.**
- **Pull out the bulb (C) from the fitting (B).**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAPUM-020710020-nl.doc



020710020

3.9.3 Replacing the flashing light

Replacing the flashing light, both front and rear, should be done in the same way as replacing the rear light. See 'Replacing the rear light'.

For the proper type of bulb, see 'bulb overview'.

EBAXXX-020710050-nl.doc

3.10 Lighting, optional

Bulb overview, optional

Function	Place	Model	Order number
Lighting	Front	Ball light, 24V, 2,4W, E10	00355.4218
Lighting	Rear	Tube light 24V, 10W, SV8,5	00355.4219
Flashing light	Front	Tube light 24V, 18W, SV8,5	00355.4212
Flashing light	Rear	Tube light 24V, 18W, SV8,5	00355.4212

EBAPUM-020710110-nl.doc

3.10.1 Replacing the front light

- See fig. 020710010.

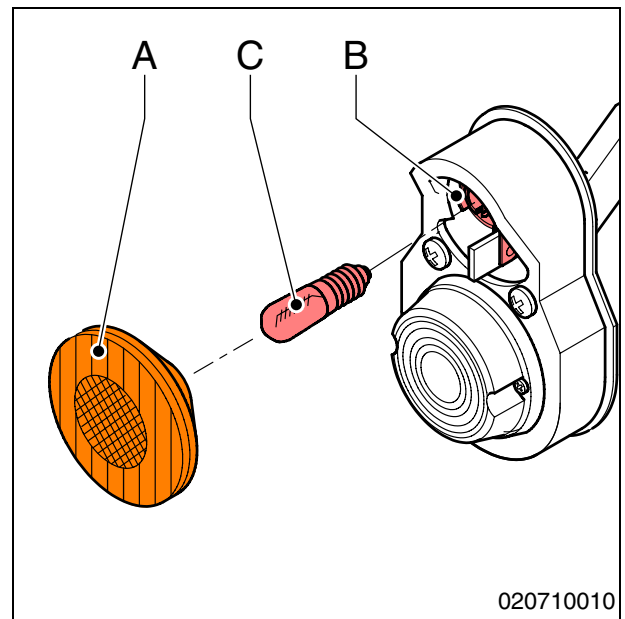
The front lights should be replaced as follows:

- **Manually turn the reflector (A) a bit to the left.**
- **Pull the reflector from the holder (B).**
The reflector is attached to the holder with a bayonet closure.
- **Unscrew the bulb (C) from the fitting.**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAYES-020710010-en.doc



020710010

3.10.2 Replacing rear light

- See fig. 020710020.

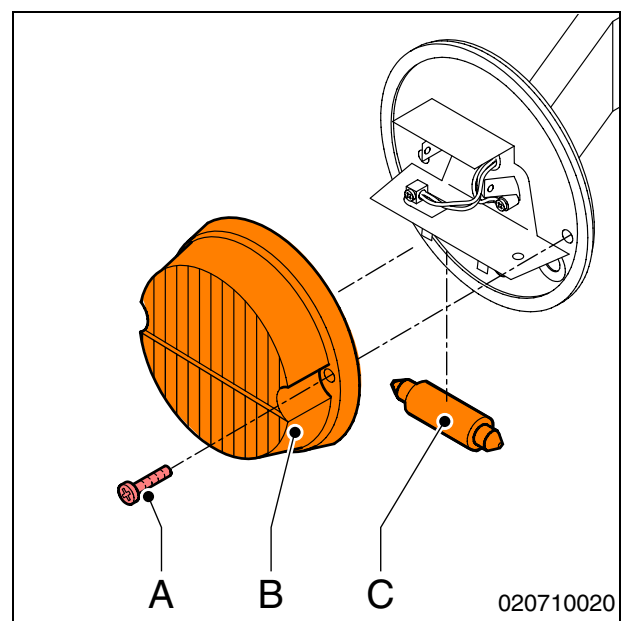
Rear lights should be replaced as follows:

- **Loosen the two screws (A) of the reflector (B) with a screwdriver with a width of 5 mm.**
- **Pull the bulb (C) from the holder.**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAYES-020710020-en.doc



020710020

3.10.3 Replacing flashing light (front)

- See fig. 020710030.

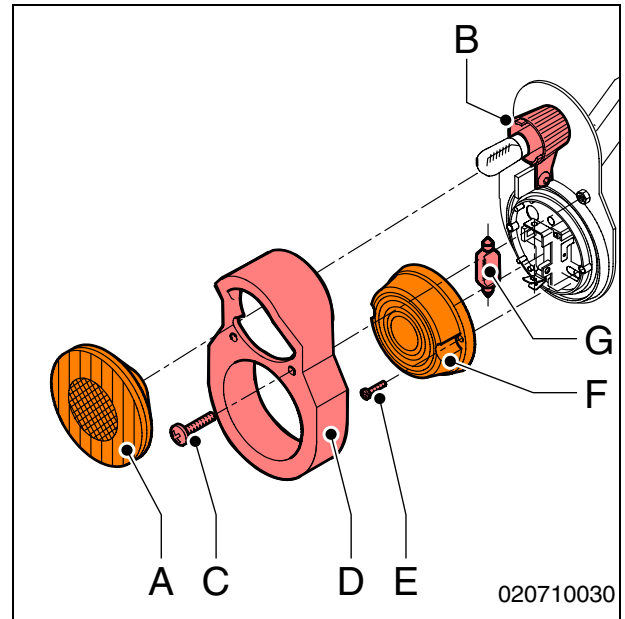
Flashing lights should be replaced as follows:

- **Manually turn the reflector (A) a bit to the left.**
- **Pull the reflector from the holder (B).**
The reflector is attached to the holder with a bayonet closure.
- **Loosen the two crosshead screws (C).**
- **Remove the cover (D).**
- **Loosen the two screws (E) of the reflector (F) with a screwdriver with a width of 5 mm.**
- **Pull the bulb (G) from the holder.**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAYES-020710030-en.doc



3.10.4 Replacing flashing light (rear)

- See fig. 020710040.

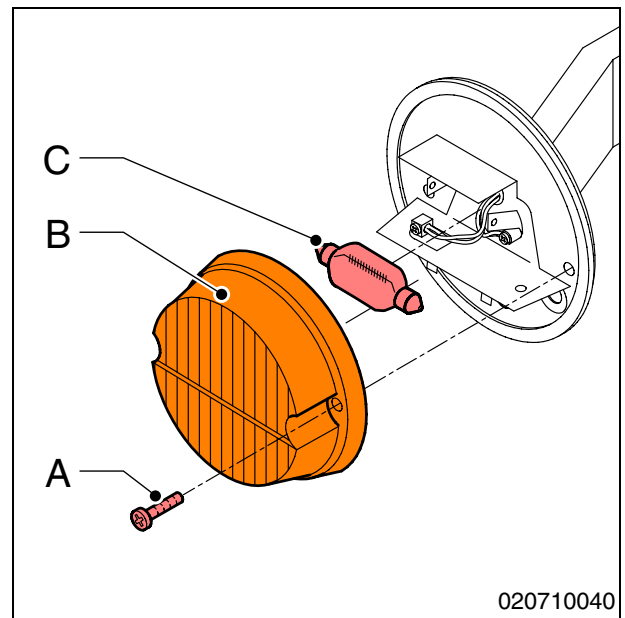
A rear flashing light should be replaced as follows:

- **Loosen the two screws (A) of the reflector (B) with a screwdriver with a width of 5 mm.**
- **Pull the bulb (C) from the holder.**

A new bulb should be replaced in the reverse order.

For the proper type of bulb, see 'bulb overview'.

EBAYES-020710040-en.doc



3.11 Cleaning

Removing dry dirt

Upholstery, metal parts and frame parts can usually be cleaned easily with a dry soft cloth.

Removing mud and/or other wet dirt

Parts that are soiled with wet dirt can best be cleaned by first wiping the dirty parts with a damp cloth and then wiping them dry with a dry soft cloth.

Upholstery

Cleaning with a damp cloth and household soap. After removing the dirt the cleaned parts should be wiped dry with a soft dry cloth.



- **Never use abrasive or aggressive cleansers. They can damage the wheelchair.**
- **Also do not use organic solvents such as thinner, washing benzene or turpentine.**
- **Be careful with water in connection with the electronic system.**
- **Upholstery: do not dry clean, iron or spin dry.**

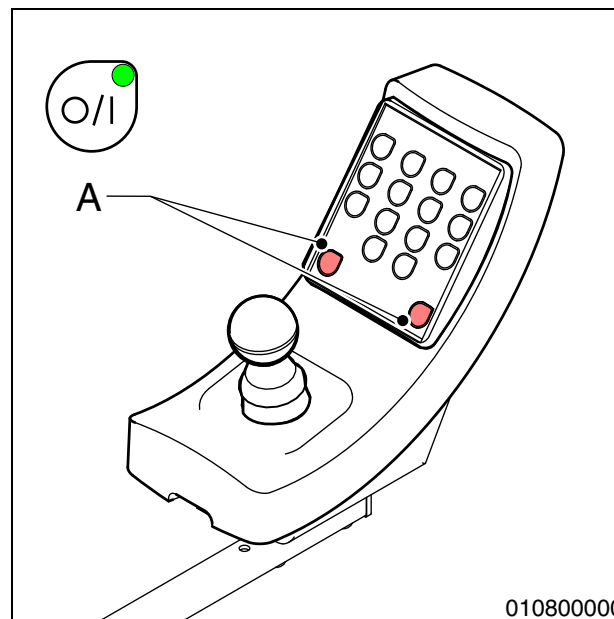
EBAXXX-010704000-en.doc

4 Troubleshooting

- See fig. 010800000.

The wheelchair has a troubleshooting diagnosis system that can be read by the dealer with special hard and software. An indication is also given on the controller near the ON/OFF light (A). This can provide important information about a malfunction.

EBAPUM-020800000-nl.doc



4.1 Fault table 'DX'

Check the malfunction/signal with the aid of the following list.

Signal	Possible cause	Remedy
ON/OFF light does not go on: the wheelchair does not move.	The plug of the controller is not properly placed in the 'power module'.	Place the plug properly in the 'power module' (DX BUS). The DX power module is behind the cover that is on the outside under the chair against the battery tray.
	The automatic safety fuse is in function.	Press the fuse. See 'Automatic fuse'.
	The batteries are not properly connected.	Check the connections.
	A connection of the batteries is loose.	Secure the connection.
ON/OFF light flashes 1 times.	DX module wrong.	Replace one or both modules. The "on/off" LED indicates the condition of the entire system. The modules all have a separate status LED: this way, you can see which one is faulty.
ON/OFF light flashes 2 times.	DX accessory wrong.	The CLAM or LM module displays a fault as a result of a programming fault or short circuit and/or overload of the accessories.
		The (optional) electrical high/low adjustment is not in the lowest position. The LED flashes two times to indicate that the speed limitation has been switched on: the wheelchair drives more slowly.

Signal	Possible cause	Remedy
ON/OFF light flashes 3 times.	The connection of the left motor (m1) is not good or is loose.	Check the connection and secure this properly.
	The left motor (m1) is defective.	Replace this motor.
	Short circuit in the connections of the left motor (m1).	Correct the connections.
	Defective output of the power module.	First check the motor for a defect: an output of the power module will only become defective through a defect in the motor itself. Only replace the power module if the fault occurs immediately when the unit is switched on. If the fault occurs when one wishes to drive, the entire left motor circuit causes the fault. In this case replace the entire relevant drive unit.
ON/OFF light flashes 4 times.	The connection of the right motor (m2) is not good or loose.	Check the connection and secure this properly.
	The right motor(m2) is defective.	Replace this motor.
	Short circuit in the connections of the right motor (m2).	Short circuit in the connections of the right motor.
	Defective output of the power module.	First check the motor for a defect: an output of the power module will only become defective through a defect in the motor itself. Only replace the power module if the fault occurs immediately when the unit is switched on. If the fault occurs when one wishes to drive, the entire left motor circuit causes the fault. In this case replace the entire relevant drive unit.
ON/OFF light flashes 5 times.	The connection of the left parking brake (m1) is not good or loose.	Correct the connection.
	The left parking brake (m1) is defective.	Replace the drive motor.
	The wheelchair is in the neutral position	Switch off the neutral.
ON/OFF light flashes 6 times.	The connection of the right parking brake (m2) is not good or loose.	Correct the connection.
	The right parking brake (m2) is defective.	Replace the drive motor.
	The wheelchair is in the neutral position.	Switch off the neutral.
ON/OFF light flashes 7 times.	The battery voltage is too low, or the batteries are empty or bad	Charge the batteries or replace them. Remark: If the voltage is too low (< 18 V) the electronics will not work properly. A number of random LEDs of the DX controller flash and the wheelchair will not function.
	The battery terminals are loose or do not make proper contact.	Tighten the battery terminals or clean them.
ON/OFF light flashes 8 times.	The battery voltage is too high, exceeding 32 V.	This usually occurs during (drop) charging. Too many of these faults will result in a defective power module. Set the charger correctly.
ON/OFF light flashes 9 times.	'BUS low' fault: cable breakage (in one of the DX bush cables) or short circuit in the DX bush system (entrances to the modules)	Check the cables and the modules and replace if necessary.

Signal	Possible cause	Remedy
ON/OFF light flashes 10 times.	Bush high fault: usually a communication fault caused by one of the DX bush cables or DX modules (entrances to the modules)	Check the cables and the modules and replace if necessary.
	The battery terminals are loose or do not make proper contact.	Tighten the battery terminals or clean them.
ON/OFF light flashes 11 times.	'STALL' overload fault: a motor is continually demanding too much power.	Check the drive units. N.B.: taking too high obstacles or driving against walls, frames, etc usually causes the fault. Also check the weight distribution of the chair, this fault can also be caused by possibly running from a standing position.
	Difficult to turn from standstill.	
ON/OFF light flashes 12 times.	System does not 'fit'. System modules are not compatible.	<i>Program the entire drive system for the relevant wheelchair with the aid of the DX-Wizard program on the PC.</i> Always confirm the programming by switching the wheelchair on and off.

Remark:

If all the plugs are connected properly and you have used the troubleshooting list but not found anything, contact the Service Department of Handicare.

Sometimes simply switching the automatic fuse off and back on can already correct the problem.



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While changing DX bush cables, fuses and/or modules the automatic safety fuse should be pushed out, so that the system is off.

4.2 Automatic fuse

The electric wheelchair is equipped with an automatic fuse, which will switch off the total electric installation in case of an overload or short circuit. This is to prevent damage. An overload may develop if the motors are overheated because they are overloaded. If the automatic fuse switches off the electric circuit of the wheelchair, it will jump out.

The automatic fuse is positioned on the right of the side panel of the motor guard.

By pressing the automatic fuse back in again, you can try to restart the wheelchair. If the automatic fuse jumps out again, you need to wait awhile to allow the motors to cool off.

If you are able to restart the wheelchair after this, you may drive on. Make sure, however, to avoid obstacles and hills.



If the automatic fuse jumps out again after the motors were allowed to cool off, there may be a short circuit. In this case, do not attempt driving, but contact your dealer.

Remark:

If the automatic fuse jumps out under normal user circumstances, contact your dealer.

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4.3 Fuses (TÜV version)

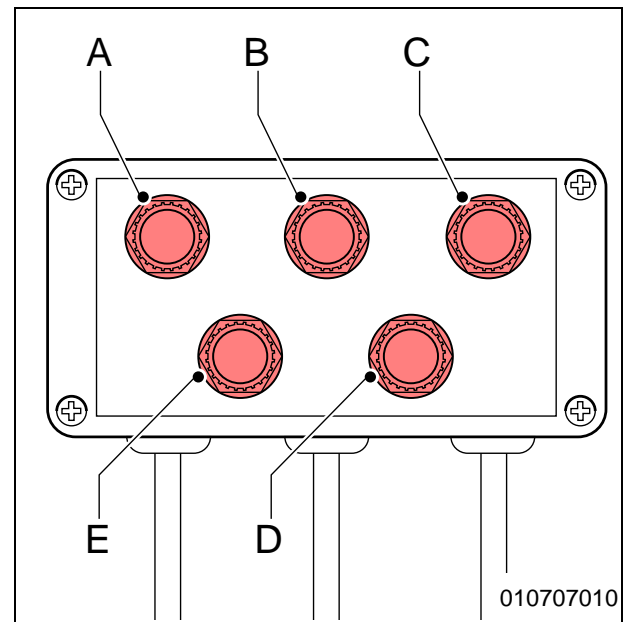
- See fig. 010707010.

The electric circuitry of lighting and drive units is secured by fuses.

The fuses are made of glass and have a diameter of 5 mm and a length of 20 mm.

They have the following functions and values:

A	Indicator left	2A
B	Indicator right	2A
C	CLAM	10A
D	LM	5A
E	Lighting	2A



5 Technical specifications

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5.1 Product specifications

Manufacturer:	Handicare
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XXXXXX-010901000-nl.doc

5.1.1 Puma Kinetic

Model	Puma Kinetic
Maximum user's weight	120 kg

Description	Min.	Max.
Total length including legrest	1200 mm	
Total width	650 mm	
Transport length	840 mm	
Transport width	640 mm	
Transport height	660 mm	
Total weight incl. batteries	130 kg	
Transport weight of heaviest part	-	
Static stability downward	15°	
Static stability upward	15°	
Static stability sideways	15°	
Energy consumption: theoretic maximum distance	32 km	
Dynamic stability on slopes	10°	
Climbing capacity for obstacles	80 mm	
Maximal speed forward	10 km/h	
Minimum brake distance at maximum speed	2000 mm	
Seat angle	1°	8°
Effective seating depth	440 mm	520 mm
Effective sitting width (adjustable)	380 mm	525 mm
Sitting height from the front	500 mm	600 mm
Back angle	83°	120°
Back height	520 mm	570 mm
Lower leg length	370 mm	520 mm
Legrest angle	70°	
Armrest height	170 mm	240 mm

Description	Min.	Max.
Front armrest to backrest	350 mm	430 mm
Minimum radius	1900 mm	
Capacity to drive over obstacle height	80 mm	
Ground clearance	90 mm	
Turning space	1400 mm	

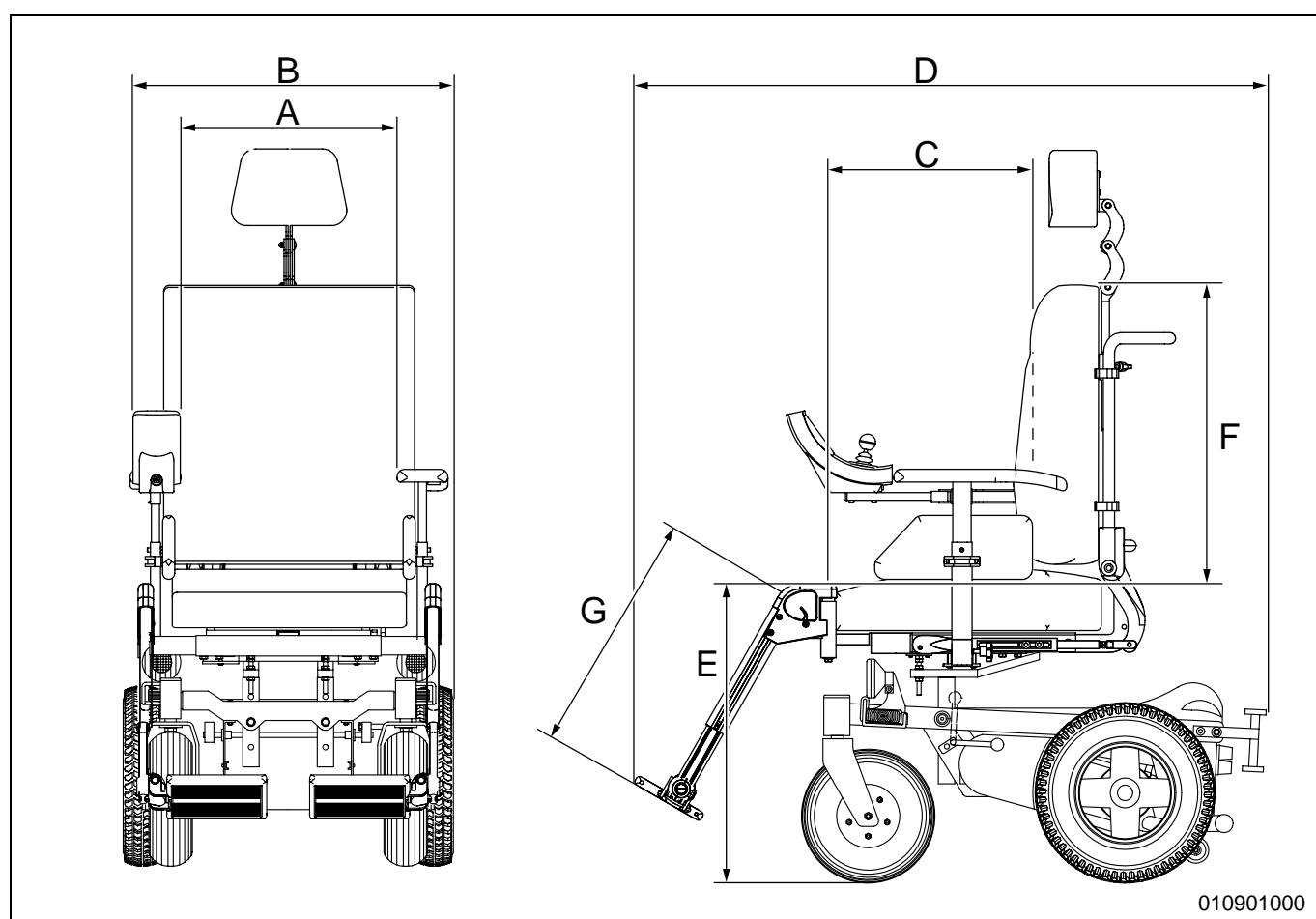
Test data		
Weight test dummy	120 kg	

Operating force		
Joystick	< 60 N	
Resetting automatic fuse	< 60 N	
Swinging away drive box	< 60 N	
Electronic switches	< 13.5 N	
Parking brake	< 60 N	
Placing charging plug	< 60 N	

Technical data	
Diameter swivel castors	260 x 85 mm
Diameter drive wheels	330 x 50 mm
Tire pressure swivel castors	350 kPa (3.5 Bar)
Tire pressure drive wheels	200 kPa (2 Bar)

Batteries	
Maximum dimensions batteries	306 x 175 x 190 mm
Weight wheelchair without batteries	78 kg
Battery capacity	60 Ah/20h
Maximum permissible charging voltage	13.6 V
Maximum charging current	12 A
Connector type	A DIN 72311

- See fig. 010901010.



010901000

Configuration data			
A	Effective seating width	380 mm	525 mm
B	Total width	650 mm	
C	Effective seating depth	440 mm	520 mm
D	Total length	1200 mm	
E	Seating height	500 mm	600 mm
F	Back height	520 mm	570 m
G	Lower leg length	370 mm	520 mm

EBAPUM-010901010-en.doc

5.2 Approval

The product meets EN 12184(1999)

1. Requirements and testing methods for static, impact and fatigue strength
2. Requirements and testing methods for electronics and operating systems
3. Climate test according to standard ISO 7176-9

The wheelchair has been awarded EN 12184 (1999) for EMC (Electro Magnetic Compatibility).

The wheelchair is TNO approved in conformity with the requirements laid down by the KBOH Foundation, admission number R-059502.

Accredited test institutions control the fulfilment of the above mentioned standards.

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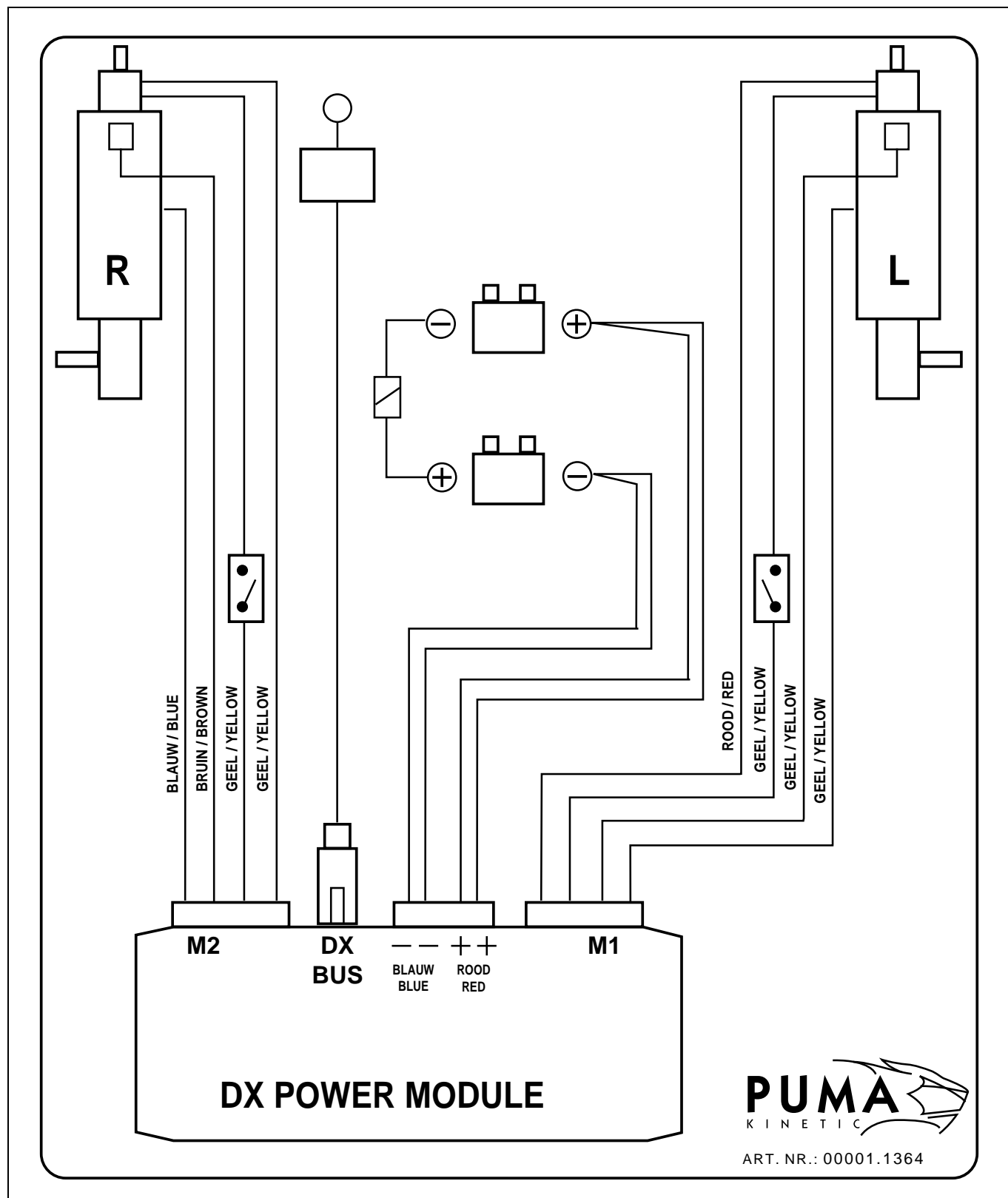
5.3 Electrical connection diagram

The electrical connection diagram of the electronic installation is affixed to the interior of the battery box lid.

EBAPUM-010902000.nl.doc

5.3.1 Electrical connection diagram 'DX'

- See fig. 010902010.



EBAPUM-010902010.nl.doc

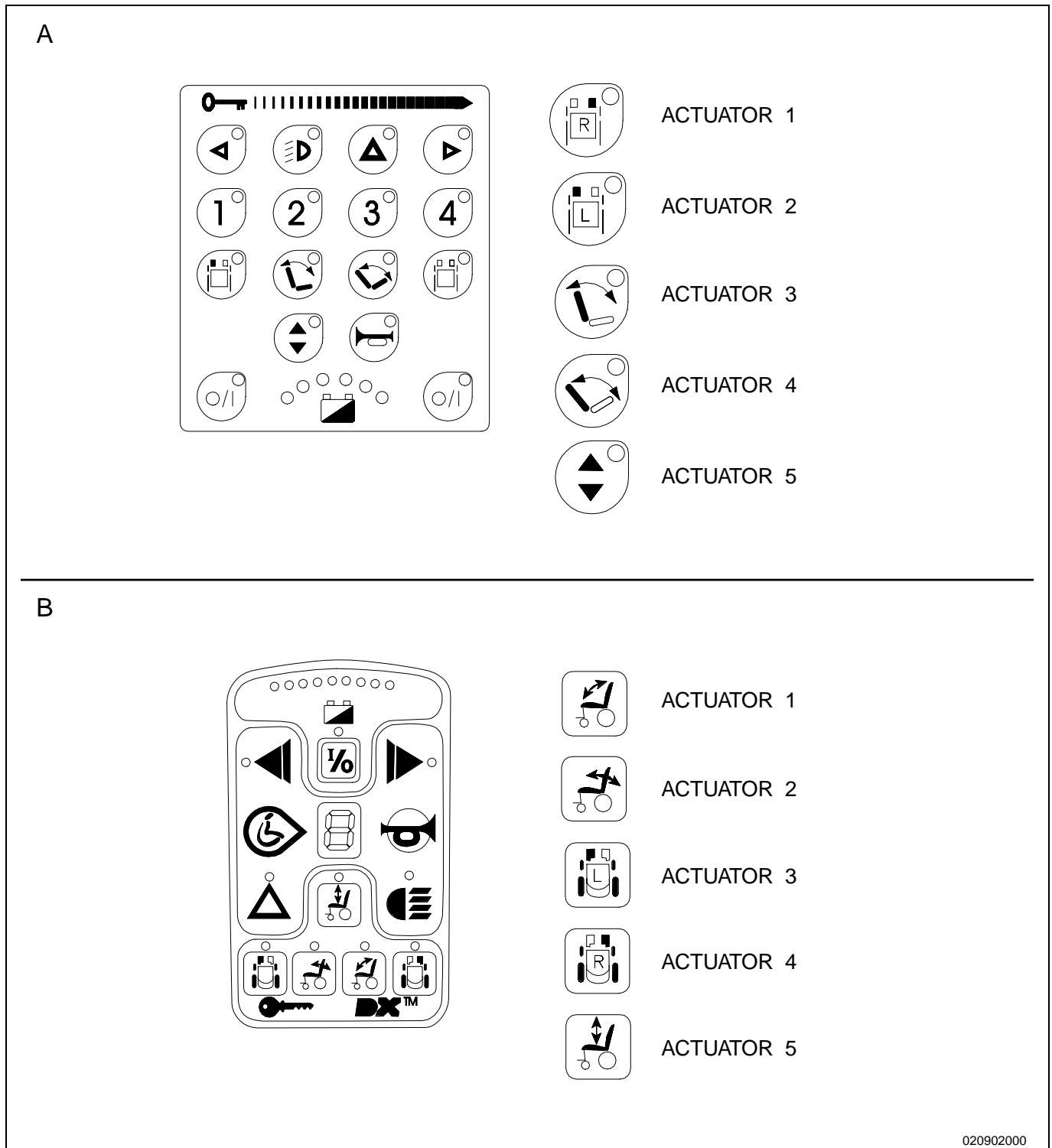
5.4 Electrical wiring diagram

The following wiring diagrams are applicable to the Puma:

- **Electrical wiring diagram LM**
- **Electrical wiring diagram CLAM**
- **Electrical wiring diagram CLAM + HL**

The Puma may be equipped with the following controllers, which have the same functionality, but have different connections:

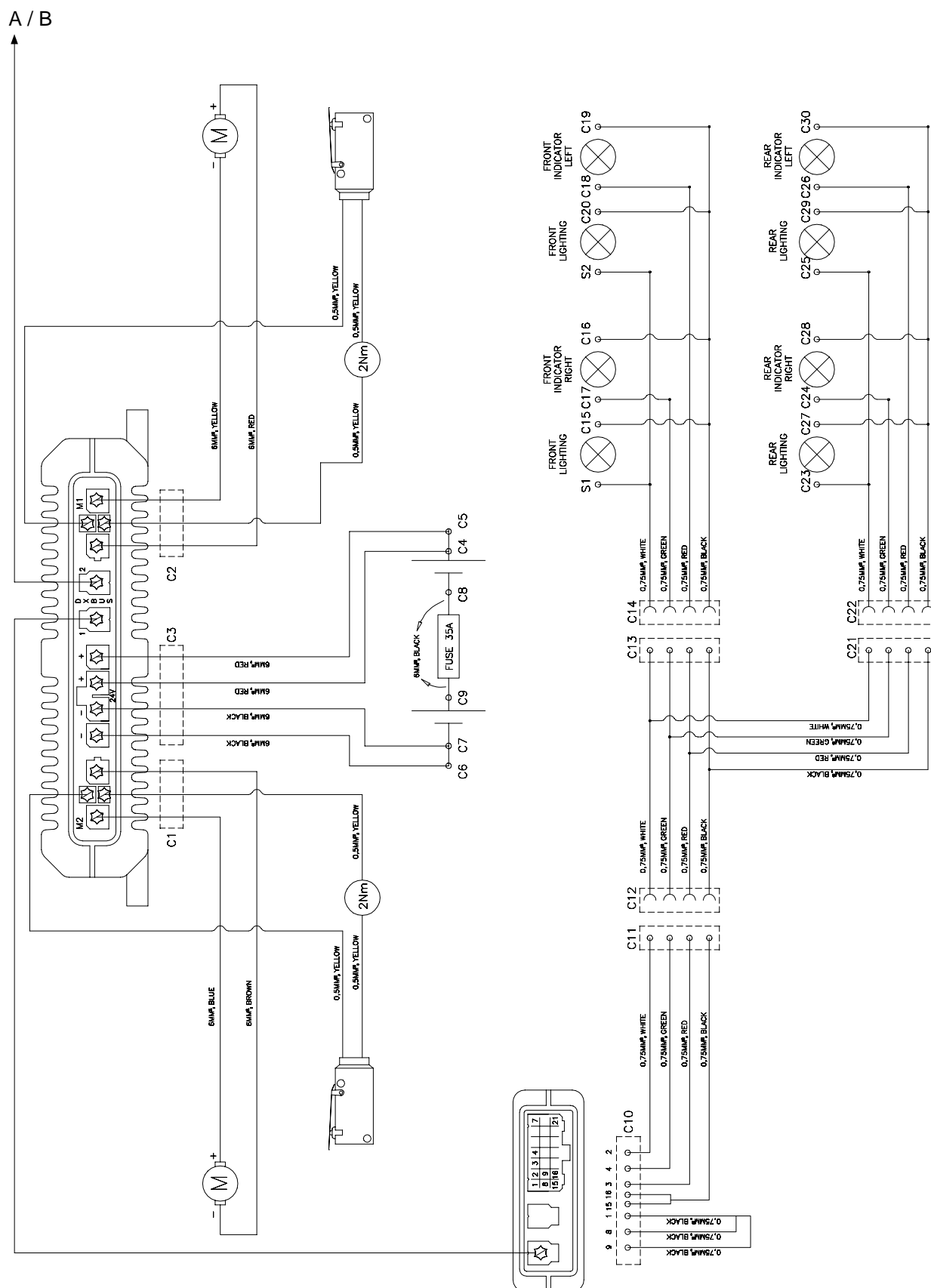
- **See fig. 020902000.**



- A. Standard operation
B. Center blade operation

5.4.1 Electrical wiring diagram LM

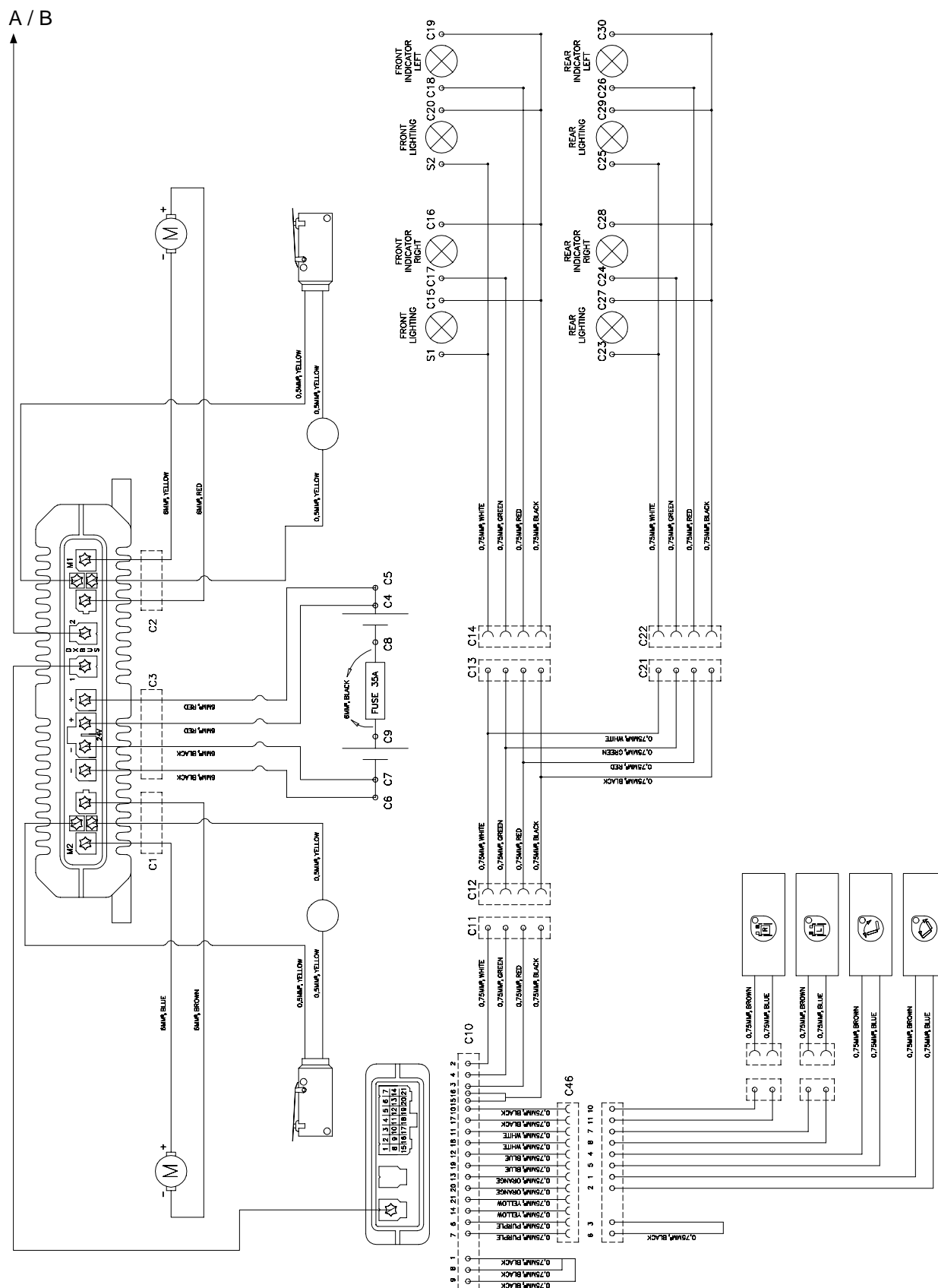
- See fig. 020902010.



020902010

5.4.2 Electrical wiring diagram CLAM

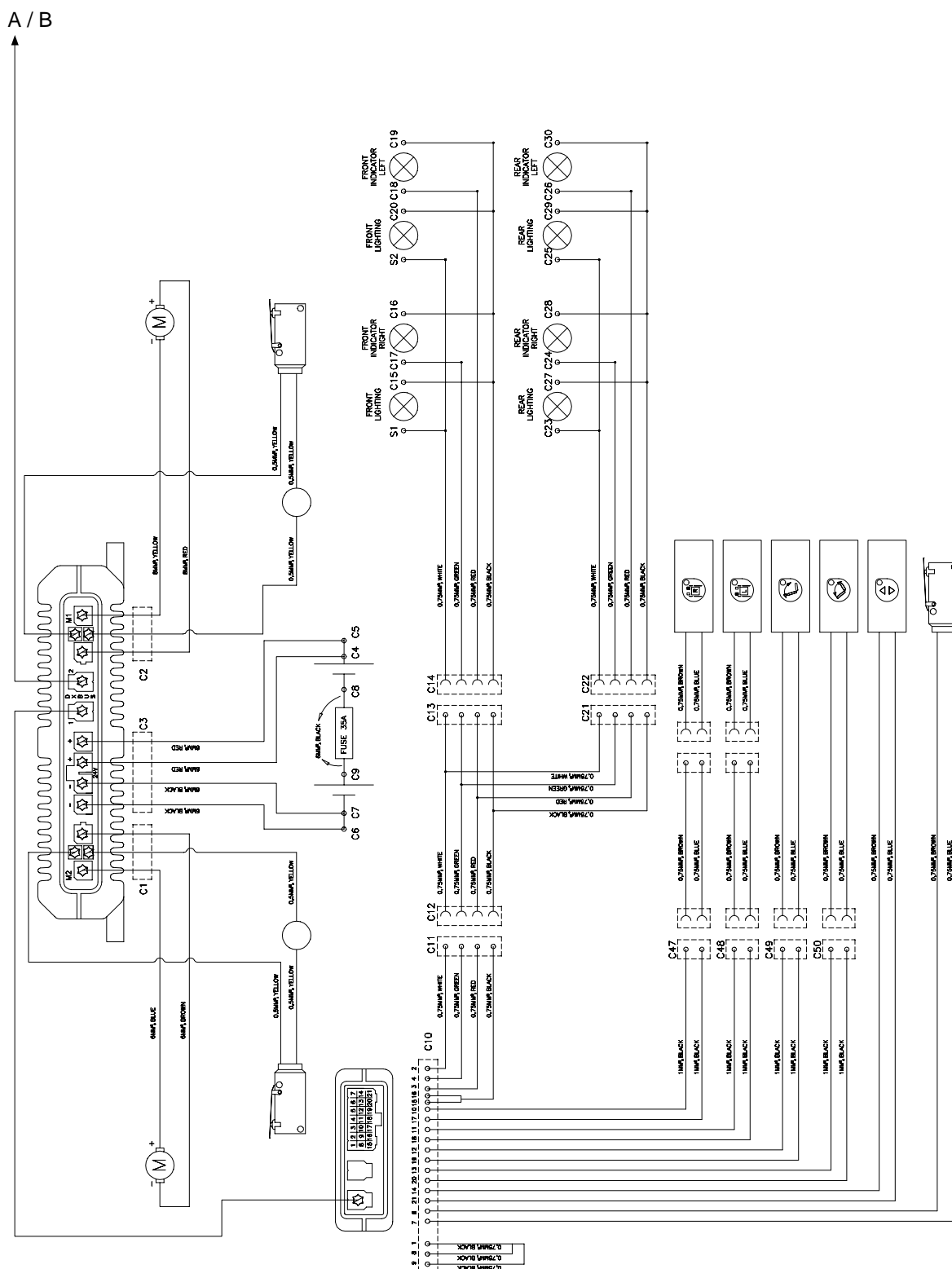
- See fig. 020902020.



020902020

5.4.3 Electrical wiring diagram CLAM + HL

- See fig. 020902030.



020902030

5.5 *Authorized service and technical support*

For problems or questions contact your dealer.
Ask us for information on the nearest dealer.

Manufacturer:	Handicare
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Supplier stamp

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6 Use of the parts lists

This document is meant as a reference book to be able to order parts for the wheelchair as shown on the front.

How to order:

To order parts please specify:

- **Serial number (see the identification plate).**
- **Group (to which the relevant part belongs).**
- **Article number.**
- **Number of parts required.**
- **Description (in the relevant language).**
- **Dimensions (if applicable).**

Remark:

- **If a part does not have a position number, it means that the relevant part cannot be bought separately. The relevant part is part of the composition that is shown. Only the composition can be ordered, so it must be replaced in its entirety.**
- **Boxed position numbers refer to the relevant drawing.**

Order address:

Please send orders by post or fax to your supplier.

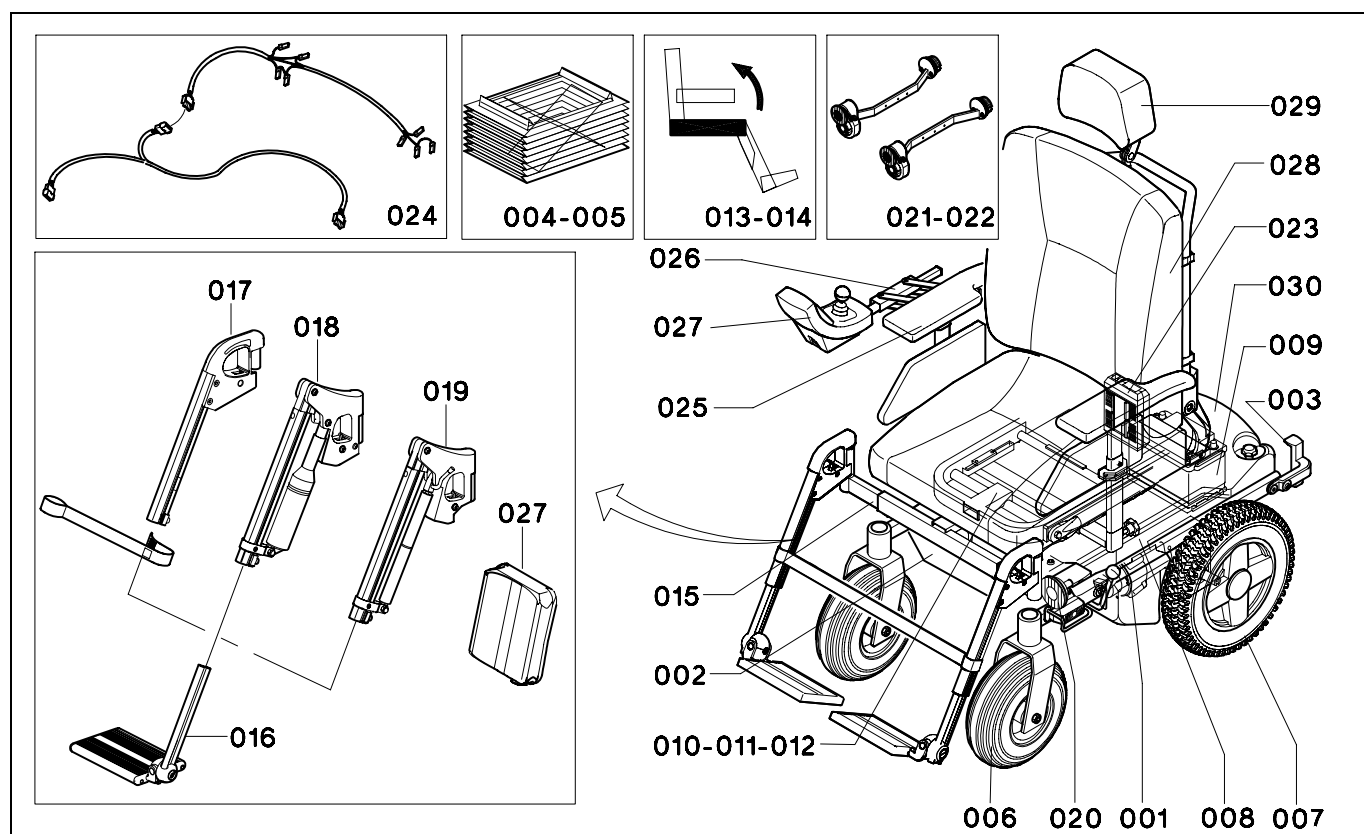
Service technicians:

Repairs may only be done by trained and authorised service technicians.

In the execution of their work they are at all times fully responsible for the fulfilment of locally applicable safety guidelines and standards.

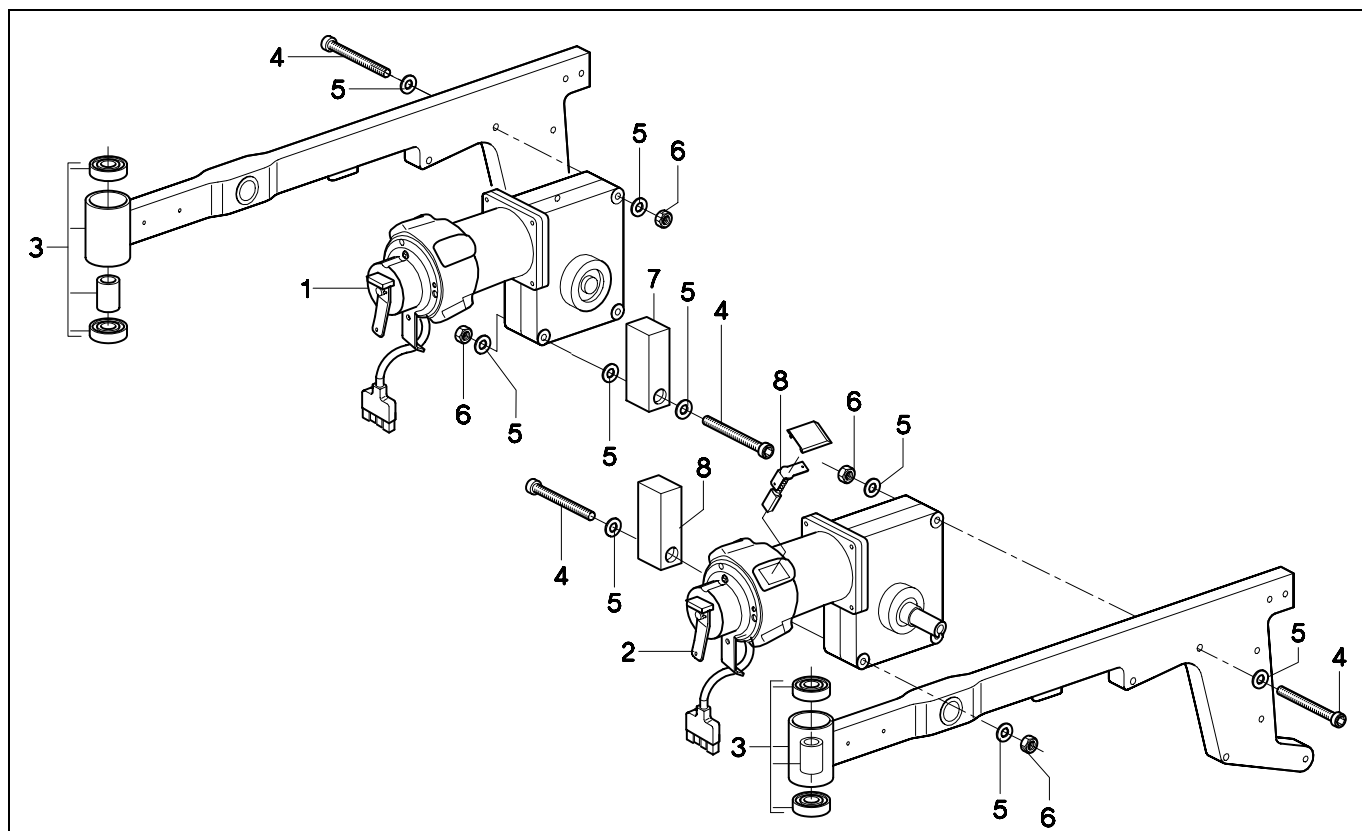
Temporary employees and persons in training may only execute repair and replacement work under the supervision of an authorised service technician.

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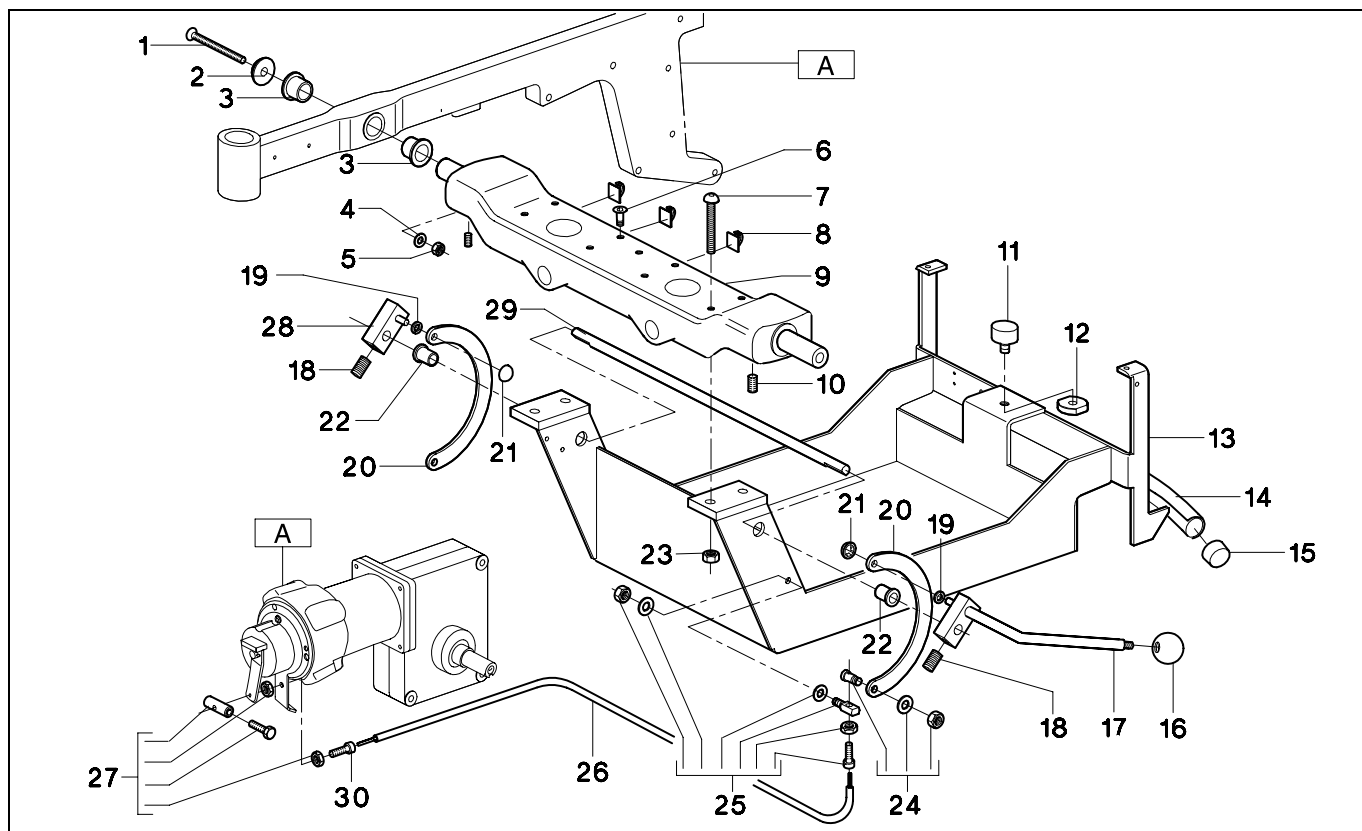
	Description
001	Suspension arm and drive
002	Battery tray and bridge
003	Suspension and taxi bracket
004	High/low mechanism
005	High/low on carrier
006	Swivel castors
007	Drive wheel
008	Carrier (incl. wheels)
009	Batteries
010	Sedeo seatframe
011	Spring mechanical backrest adjustment
012	Electric back adjustment
013	Mechanical and electric tilt seatframe
014	Mechanical and electric tilt high/low seatframe
015	Mounting bracket and back frame
016	Footplate
017	Standard legrest
018	Comfort electric legrest
019	Comfort mechanical legrest
020	Lighting
021	Lighting
022	Lighting cables
023	CLAM, LM
024	Lighting cables
025	Armrest
026	Swing-away joystick bracket
027	DX controller
028	Seat / backrest / calf pad
029	Headrest
030	Plastic cover

- 001: Suspension arm and drive



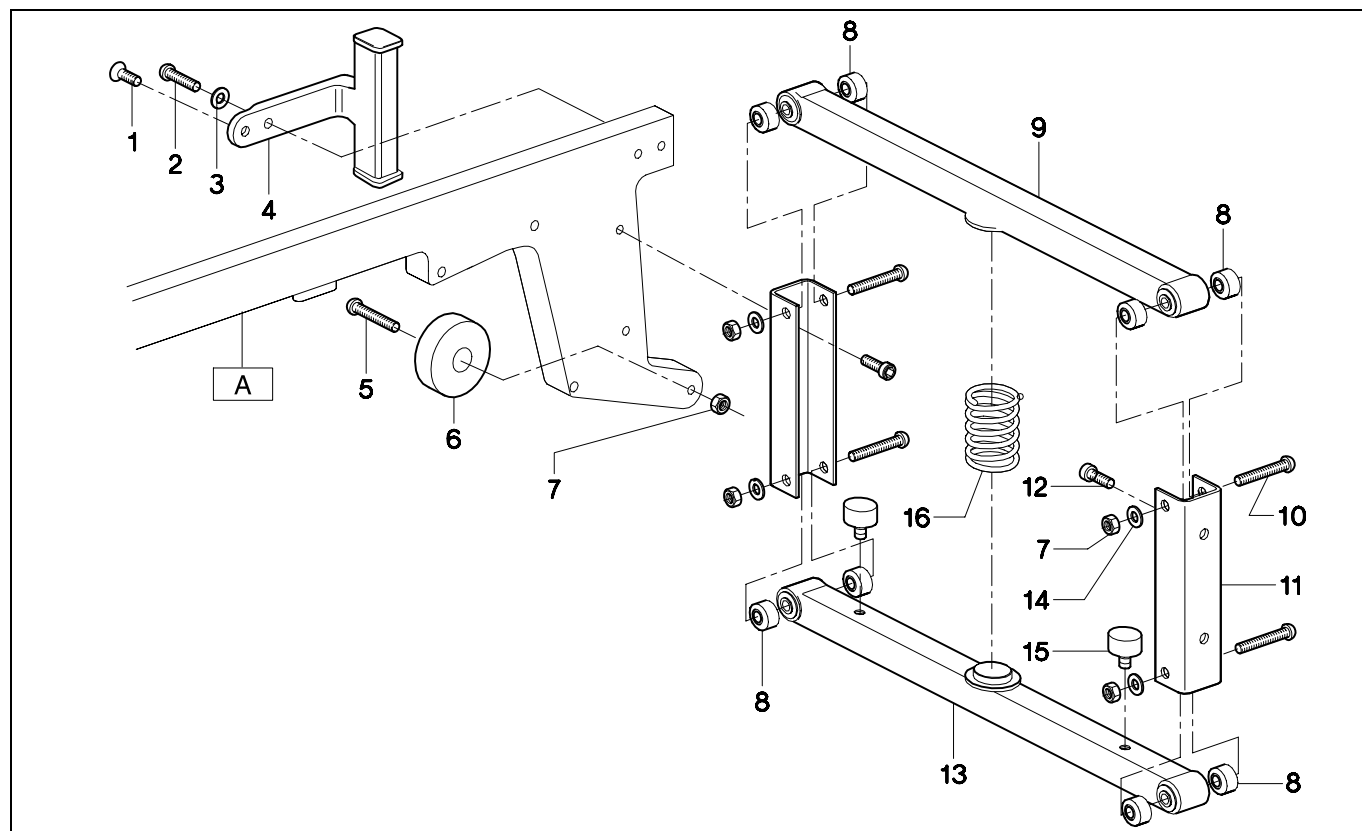
Pos	Article number	Units	Description	
1	05010.5200	1	Drive right	
2	05010.5300	1	Drive left	
3	No spare part	2	Suspension arm (no longer available)	
4	00000.4023	8	Cil cap screw inn.zk.M8x80 vz	
5	00000.2003	16	Washer flat M8 D125A/vz	
6	00000.1702	8	Locknut M8 D985/8/vz	
7	05010.2783	2	Guide block	
8	103.00011.000	1	Carbon brush set	
-	108.00251.000	2	Motor brake	

• 002: Battery tray and bridge



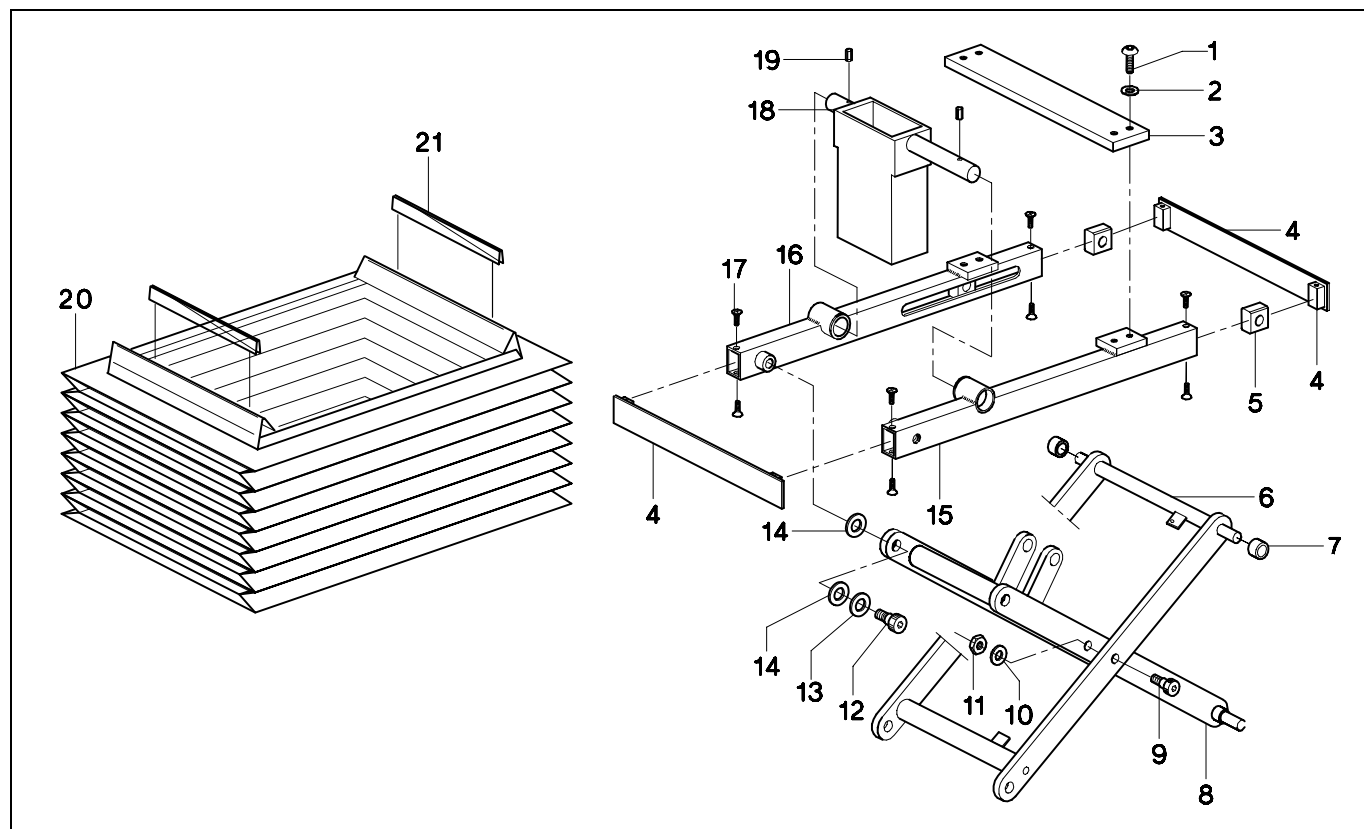
Pos	Article number	Units	Description	
1	00001.0905	2	Screw PLV/BZK M8X95 D7991 VZ	
2	05010.0812	2	Washer	
3	00000.5302	4	Bearing bush 28X23X16 IGLIDUR	
4	00000.2103	2	Washer flat 3XD M8 D9021/vz	
5	00000.1702	2	Locknut M8 D985/8/vz	
6	00001.0902	1	Screw PLV/BZK M8X20 D7991 VZ	
7	00000.3718	4	Buttonhead M8X55 VZ	
8	00000.7111	3	Adhesive seat 20X20MM NYLON	
9	05010.3626	1	Center bridge	
10	00000.3501	2	Adjusting screw BZK M8X10 D913/VZ	
11	00000.7703	1	Cil. vibration damper30 NBR	
12	05020.1212	1	Washer	
13	05010.6023	1	Battery tray	
14	05010.7682	1	Bumper	
15	00000.9104	2	Push-on cap, round 30 black	
16	00000.4903	2	Ball knob brake handle M8 R.32 ZW	
17	05010.2023	1	Handgrip neutral	
18	00000.3502	2	Adjusting screw BZK M8X16 D913/VZ	
19	00000.2302	2	Washer flat M6 D125A/6.6/PA	
20	21010.1312	2	Neutral arm	
21	00000.8402	2	Quick-locking system with cap 6 mm chr	
22	00000.5001	2	Bearing bush nylon 10X13X15	
23	00000.1702	4	Locknut M8 D985/8/vz	
24	00000.6432	2	Cable-clamping bolt M6 (6MM)	
25	00000.6431	2	Adjusting nipple and mounting	
26	00000.6416	2	Neutral cable ver 2 PUMA	
27	00000.6491	2	Screw nipple 6-14	
28	05010.2312	1	Friction block	
29	05010.2612	1	Shaft neutral	
30	00000.6435	2	Adjusting nipple M6X25, twinbuckle	
A			See: 001: Suspension arm and drive	

- 003: Suspension and taxi bracket



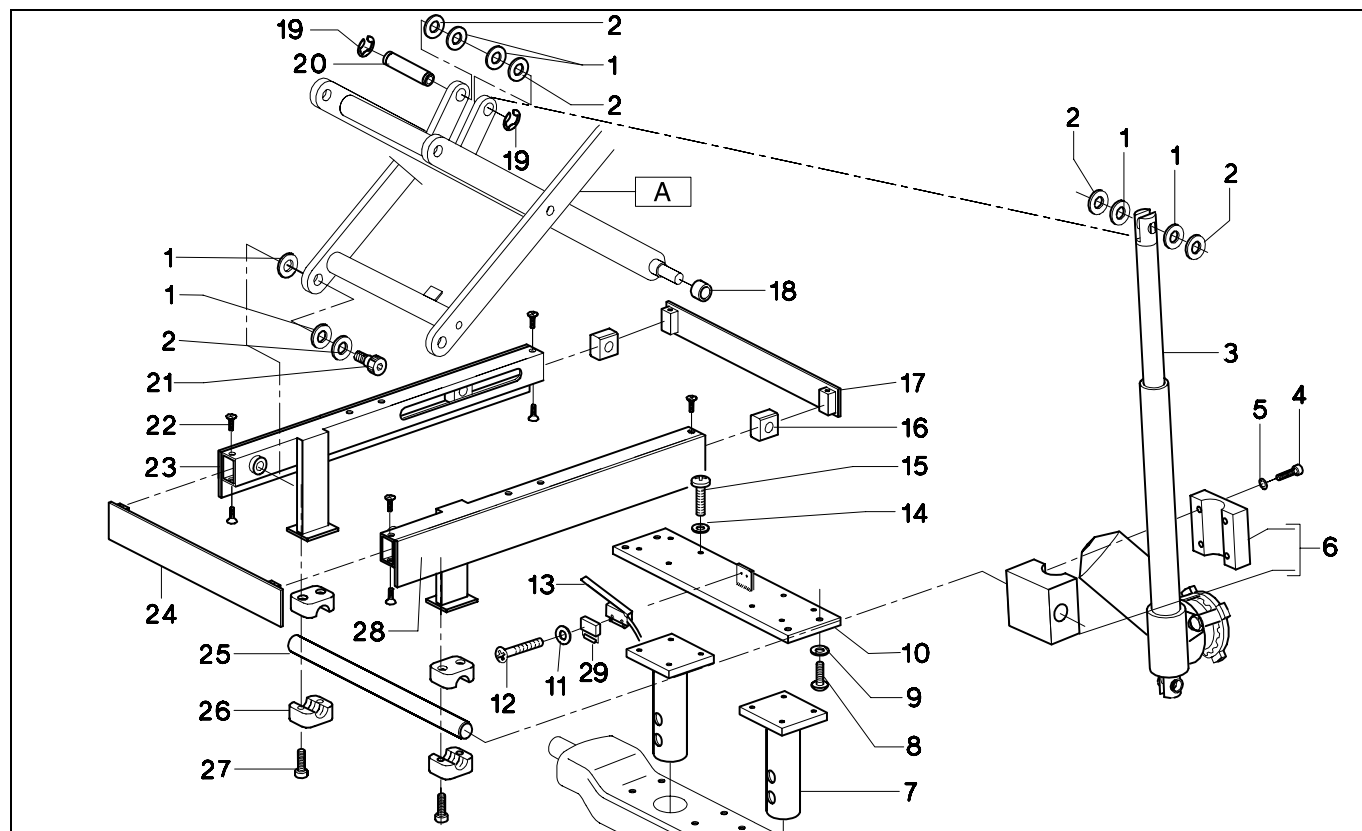
Pos	Article number	Units	Description	
1	00001.0902	2	Screw PLV/BZK M8X20 D7991 VZ	
2	00000.3708	2	Buttonhead M8X35 VZ	
3	00000.2103	2	Washer flat 3XD M8 D9021/vz	
4	05690.0410	2	Taxi bracket	
	05690.9010	1	Taxi bracket set	
5	00000.3713	2	Buttonhead M8X50 VZ	
6	00000.5403	2	Wheel anti tip	
7	00000.1702	6	Locknut M8 D985/8/vz	
8	1353	8	Bush	
9	05020.1123	1	Upper suspension arm	
10	00000.3713	4	Buttonhead M8X50 VZ	
11	05020.1312	2	U-profile suspension package	
12	00000.4026	4	Cil cap screw inn zk M8X25 VZ	
13	05020.1023	1	Lower suspension arm	
14	00000.2003	4	Washer flat M8 D125A/vz	
15	00000.7703	2	Cil. vibration damper30 NBR	
16	05020.1543	1	Spring	
A			See: 001: Suspension arm and drive	

• 004: High/low mechanism



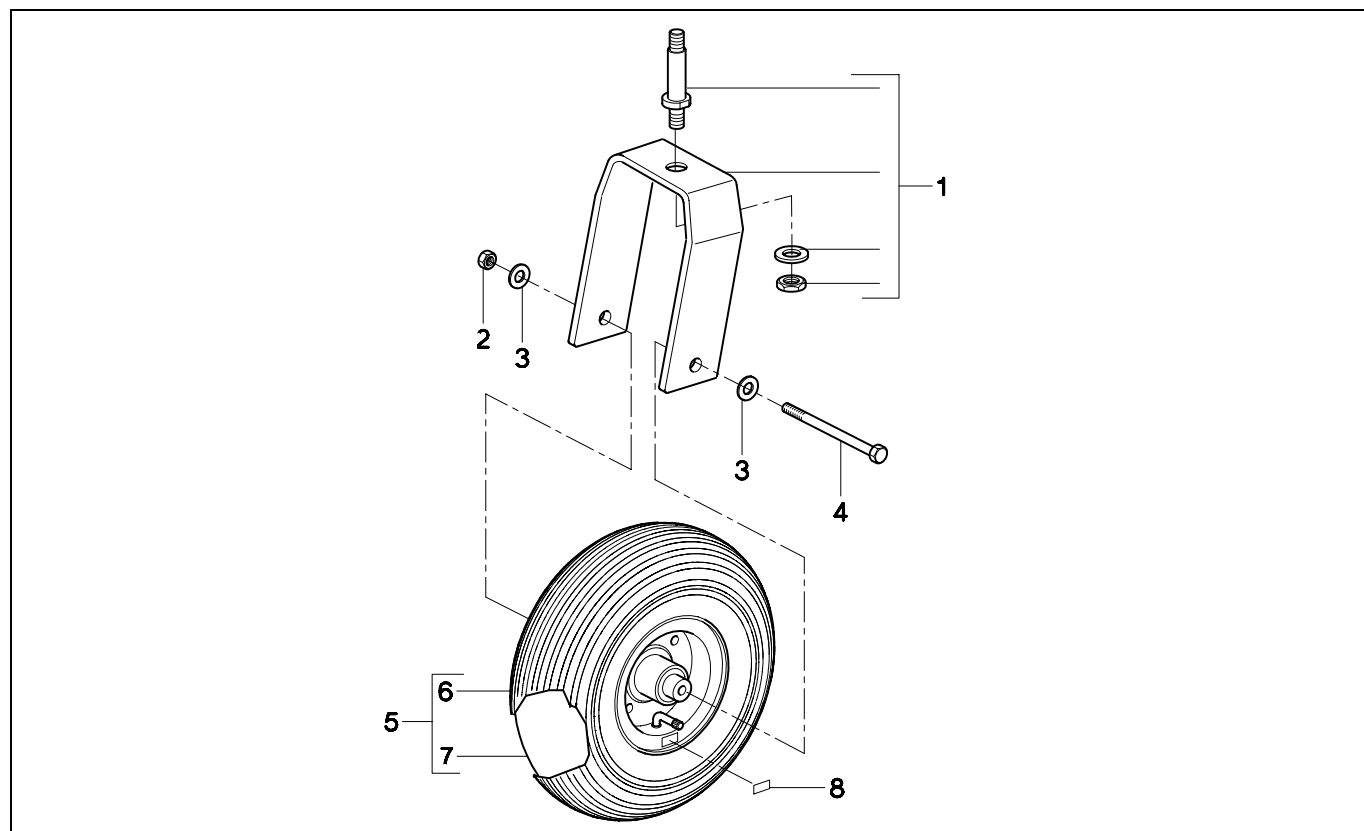
Pos	Article number	Units	Description	
1	00000.3706	4	Screw M8xP1.25x25L	
2	00000.2203	4	Spring washer SW8	
3	No spare part	1	H/L reinforcement strip	
4	No spare part	2	Bellows-mounting strip, narrow	
5	No spare part	4	H/L guiding block	
6	No spare part	1	Shears inside	
7	00000.5708	4	Spacing bush nylon 18X12.3X10	
8	No spare part	1	Shears outside	
9	00001.0107	2	Adjusting screw M8-10X10	
10	00000.2304	2	Flat washer M10 PA	
11	00000.1602	2	Hex Nut Low M8 D439B/VZ	
12	00001.0108	2	Adjusting screw M10-12*16	
13	00000.2005	2	Washer flat M12 D125A/vz	
14	00000.2305	4	Flat washer M12 PA	
15	No spare part	1	Cylinder upper right	
16	No spare part	1	Cylinder upper left	
17	00000.3612	8	Screw M4x10	
18	05456.0912	1	H/L tilt motor housing	
19	00000.6101	2	Notch pin dia 6X10, DIN1473	
20	05456.2410	1	H/L bellows	
21	00000.6415	2	Mounting clip H/L bellows ver2	

- 005: High/low on carrier



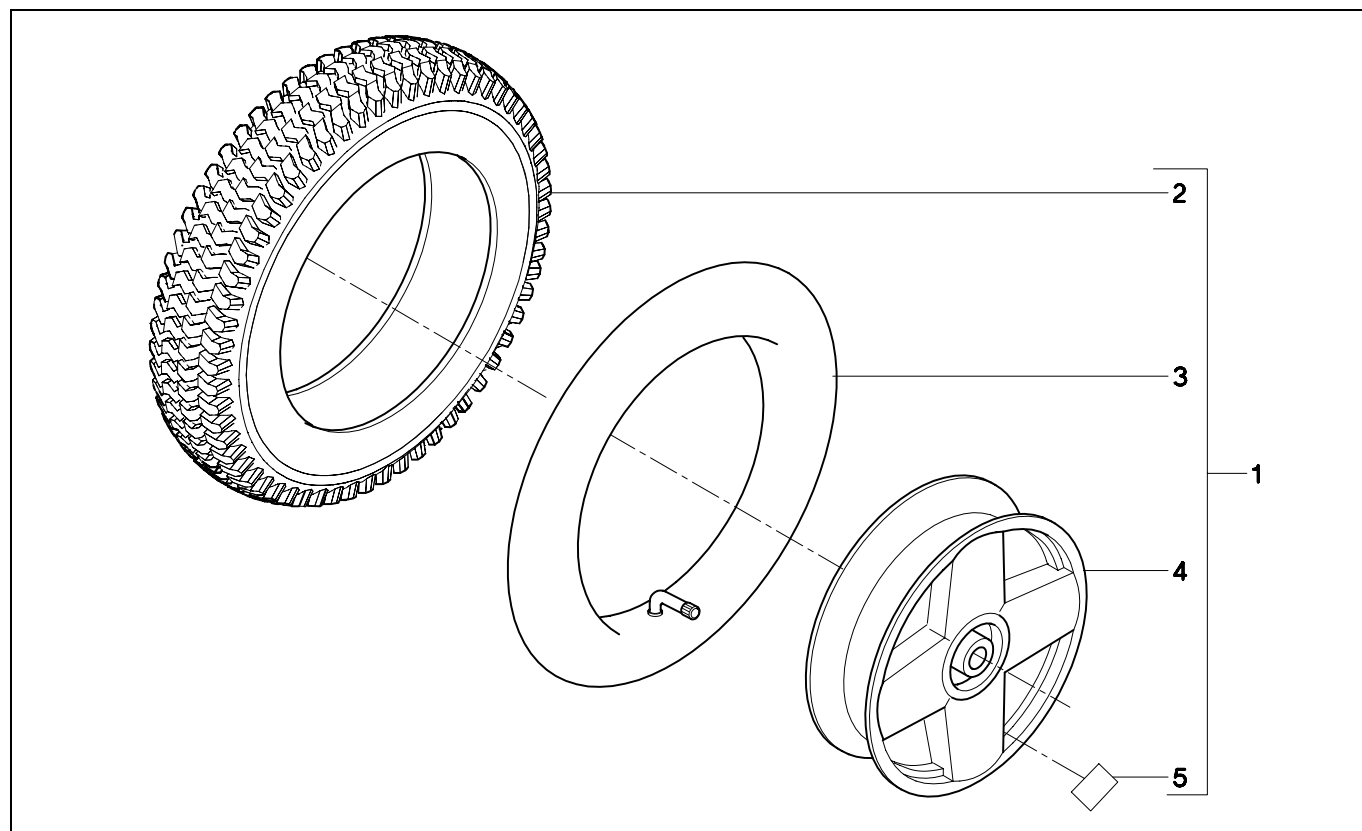
Pos	Article number	Units	Description	
1	00000.2305	6	Flat washer M12 PA	
2	00000.2005	7	Washer flat M12 D125A/vz	
3	00355.0306	1	Linak motor H/L	
4	00000.4044	4	Cil cap screw inn zk M6X25 VZ 12.9	
5	00000.2202	4	Spring washer M6 D127B/VZ	
6	No spare part	1	H/L clamping block	
7	No spare part	2	H/L mast	
8	00000.3706	4	Screw M8xP1.25x25L	
9	00000.2203	4	Spring washer SW8	
10	No spare part	1	H/L mounting strip	
11	00000.2200	2	Spring washer M2 D127B/VZ	
12	00000.3401	2	Screw CK/ZS VZ M2X12	
13	21143.0910	1	Microswitch	
14	00000.2203	8	Spring washer SW8	
15	00000.3706	8	Screw M8xP1.25x25L	
16	No spare part	2	H/L guiding block	
17	No spare part	1	Bellows-mounting strip, narrow	
18	00000.5708	2	Spacing bush nylon 18X12.3X10	
19	001.01100.001	2	Shaft lock washer 10MM D6799 RVS	
20	151.00091.010	1	H/L shaft	
21	00001.0108	2	Adjusting screw M10-12*16	
22	00000.3612	8	Screw M4x10	
23	05456.0412	1	Cylinder lower right	
24	No spare part	1	Bellows-mounting strip, wide	
25	No spare part	1	Mounting shaft motor	
26	00000.7503	4	Stauff block ALU DIA 18 MM	
27	00000.4044	4	Cil cap screw inn zk M6X25 VZ 12.9	
28	05456.0312	1	Cylinder lower left	
29	00355.4400	1	Resistor 10K	
A			See: 004: High/low mechanism	

• 006: Swivel castors



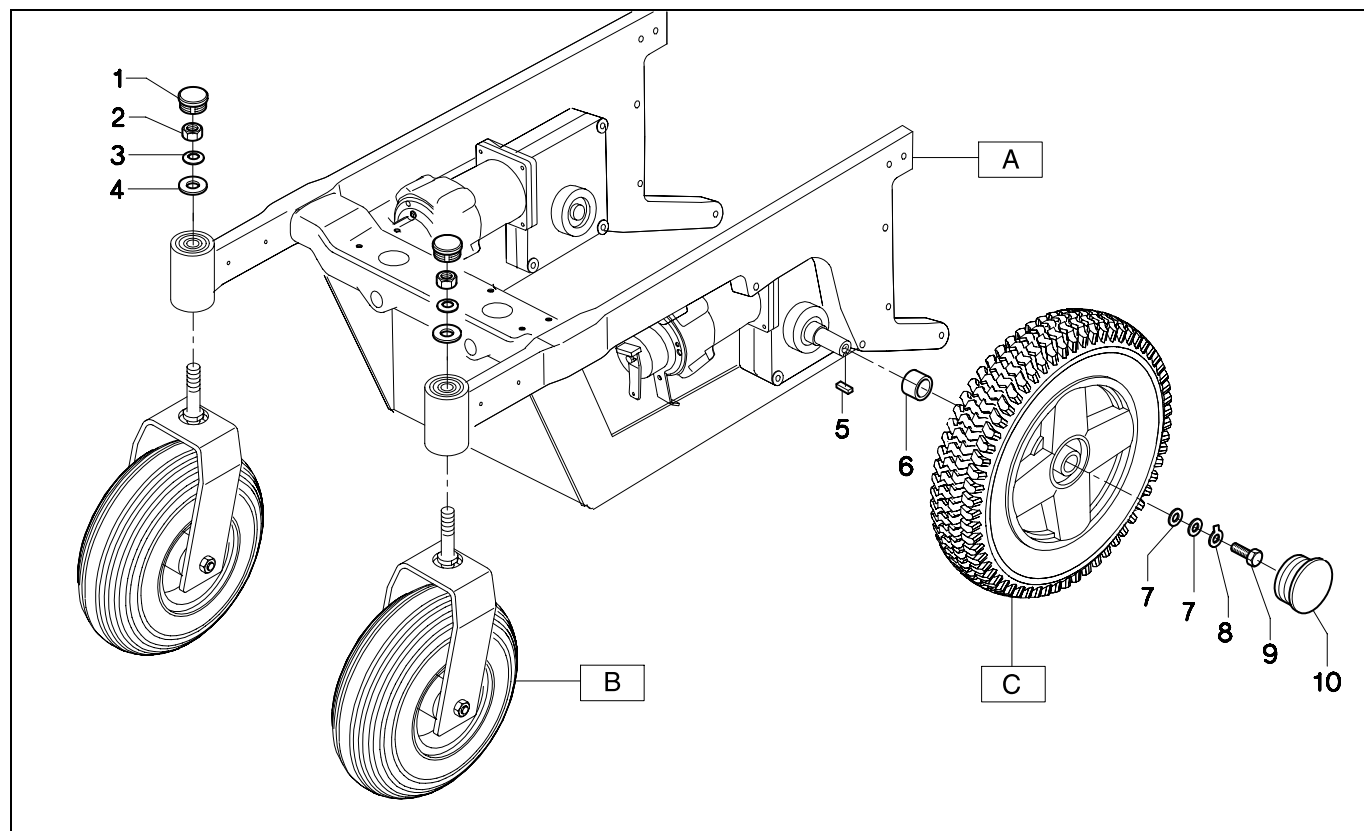
Pos	Article number	Units	Description	
1	05010.2400	2	Front fork and axle	
2	00000.1702	2	Locknut M8 D985/8/VZ	
3	00000.2003	4	Washer flat M8 D125A/VZ	
4	00000.4118	2	Hex. Bolt M8X120 D931/8.8 VZ	
5	170.00161.000	2	Wheel complete	
6	05010.4100	2	BUBA 260/85-108 line profile	
7	05010.4000	2	BIBA 206/85-108	
8	00001.1463	2	Sticker tire pressure 3.5 Bar	

- 007: Drive wheel



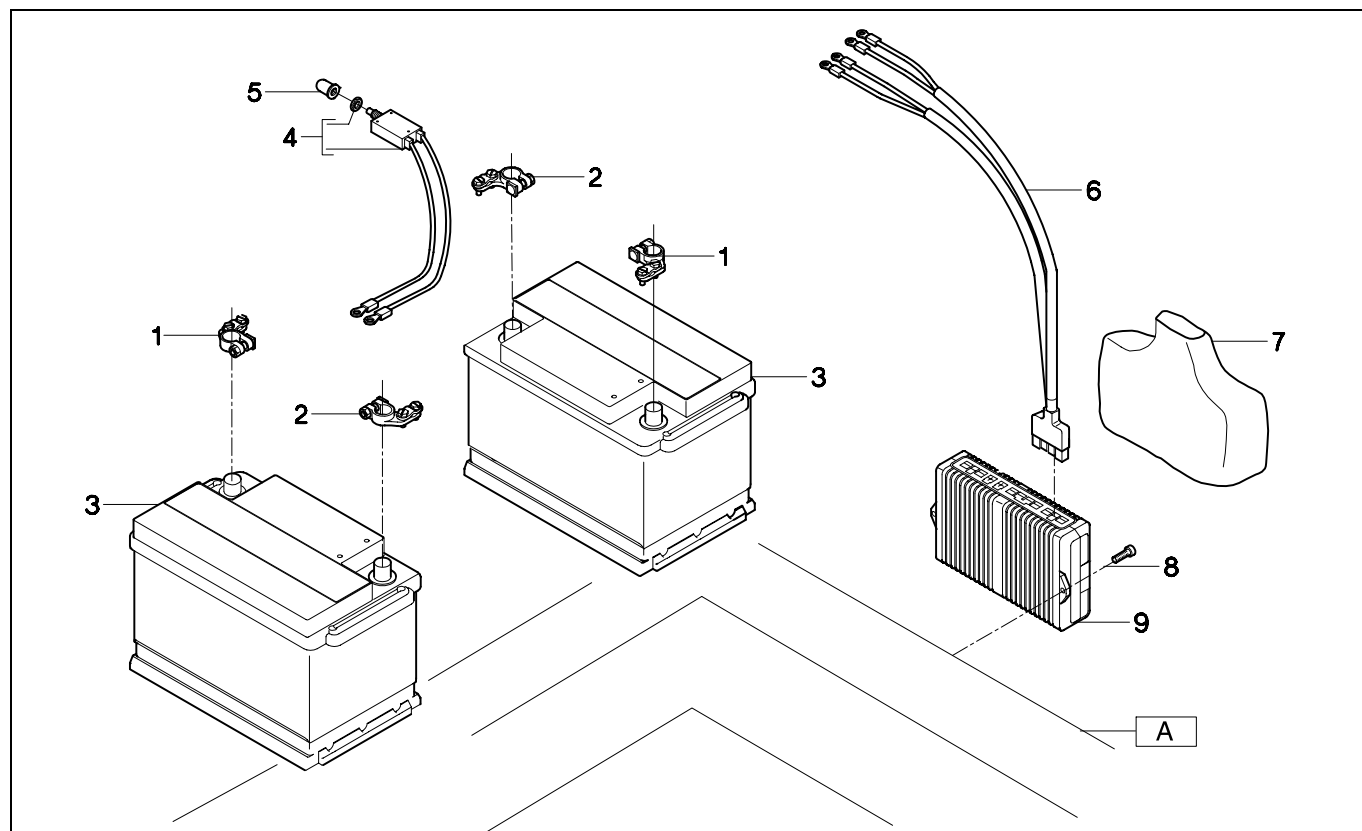
Pos	Article number	Units	Description	
1	05010.4500	2	Back wheel complete	
2	06010.4200	2	BUBA 3.00x8	
3	06010.4100	2	BIBA 3.00x8	
4	05010.4527	2	Rim	
5	00001.1460	2	Sticker tire pressure 2 Bar	

• 008: Carrier (incl. wheels)



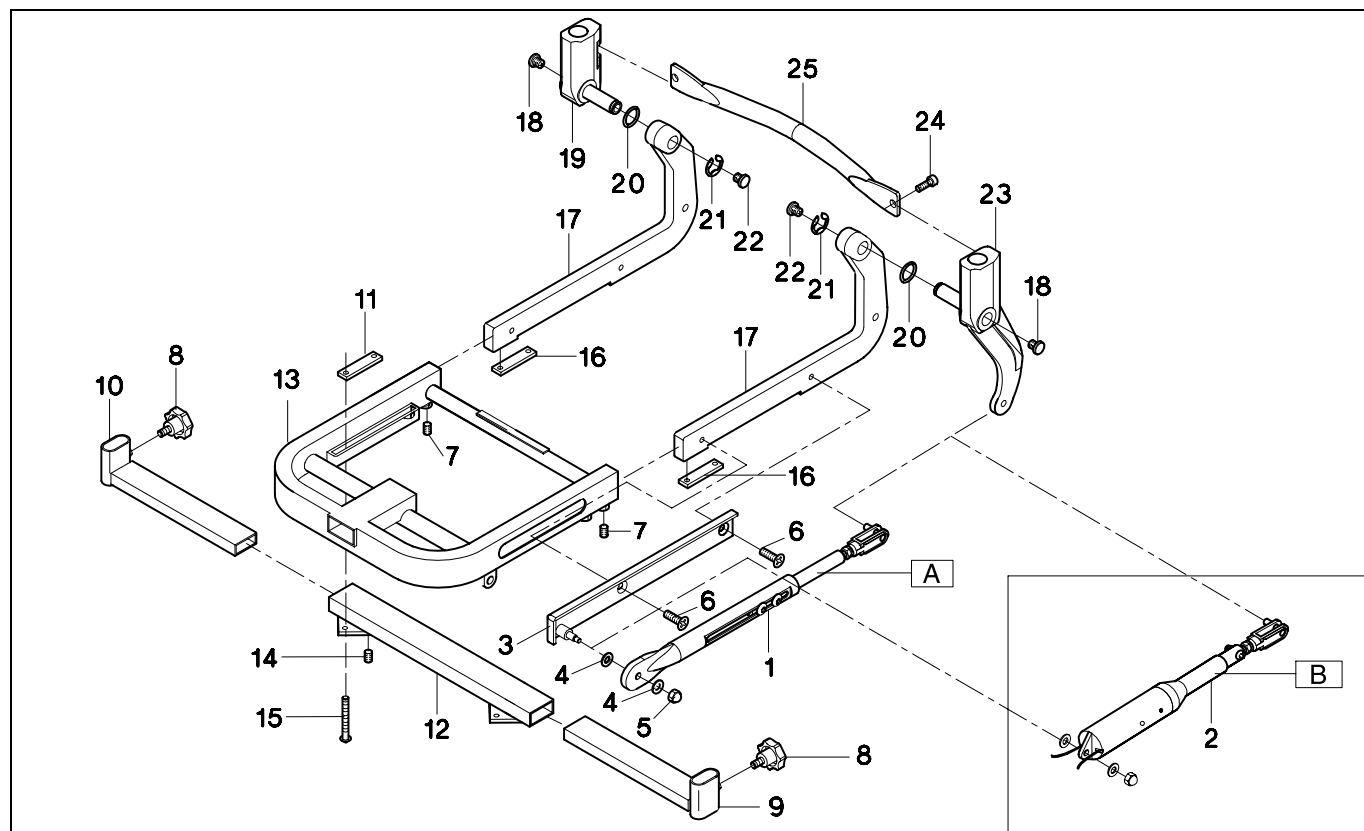
Pos	Article number	Units	Description	
1	00000.9008	2	Insert cap, round 35 black	
2	00000.1750	2	Locknut M12 D985/8/VZ	
3	00000.2803	2	Cup spring bl 23X12,2X1	
4	05010.3310	2	Washer	
5	00000.7604	2	Key flat 6X6X30	
6	05010.4912	2	Bush	
7	00000.2104	4	Washer flat 3XD M10	
8	00001.0601	2	Lip locking plate DIN463, M10 WHITE	
9	00000.4315	2	Hex bolt M10X20	
10	00000.9006	2	Insert cap, round 65 black	
A			See: 002: Battery tray and bridge	
B			See: 006: Swivel castors	
C			See: 007: Drive wheel	

- 009: Batteries



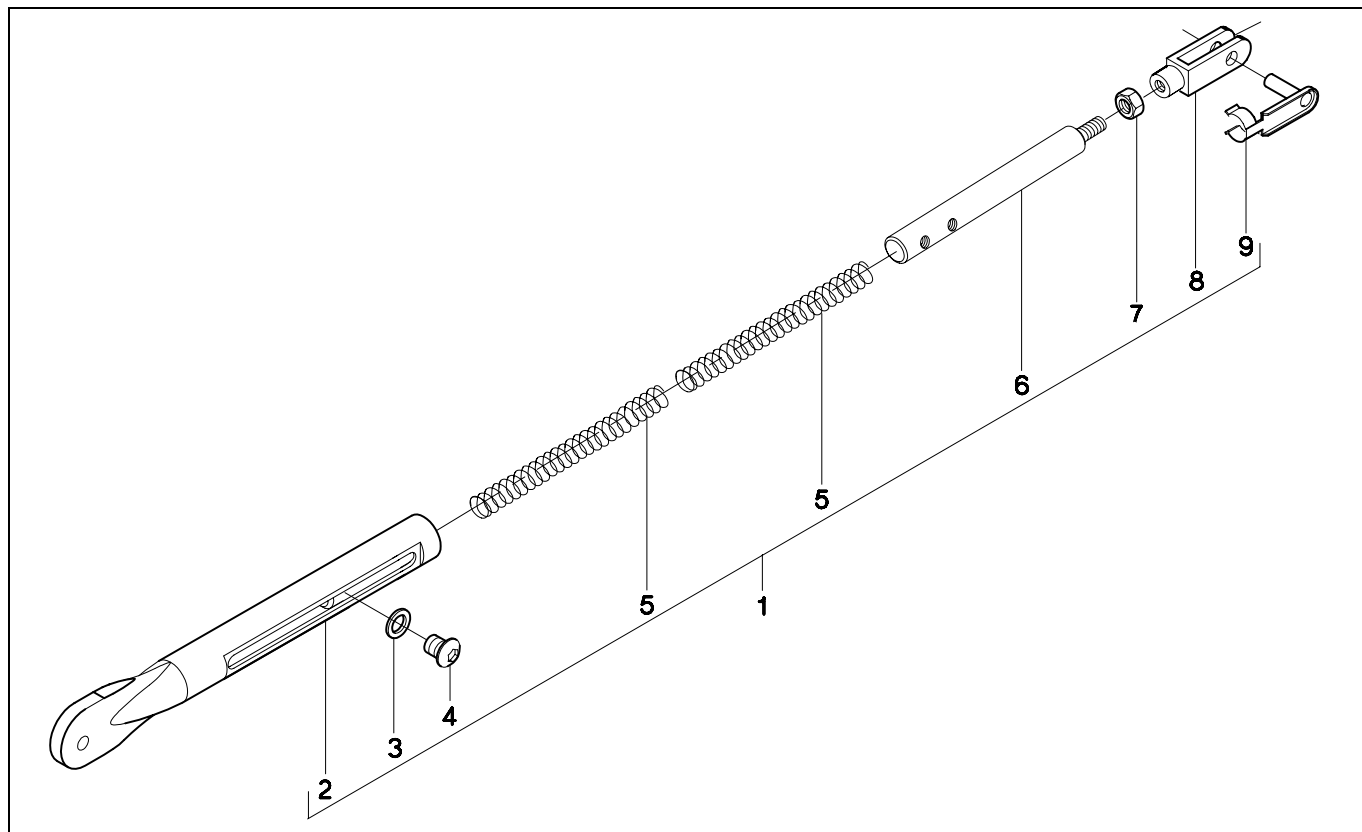
Pos	Article number	Units	Description	
1	00001.0006	2	Battery clamp +	
2	00001.0007	2	Battery clamp -	
3	9002759	2	Battery (50Ah C5) (60Ah C20)	
4	00355.0126	1	Autom. fuse 35A + cable	
5	00355.0043	1	Cap	
6	00355.0047	1	Power cable	
7	00355.0285	1	Splash bag power module	
8	00000.4036	2	Cyl cap screw M5X12	
9	00355.0109	1	DX Power module PM2 80A	
A			See: 002: Battery tray and bridge	

• 010: Sedeo seatframe



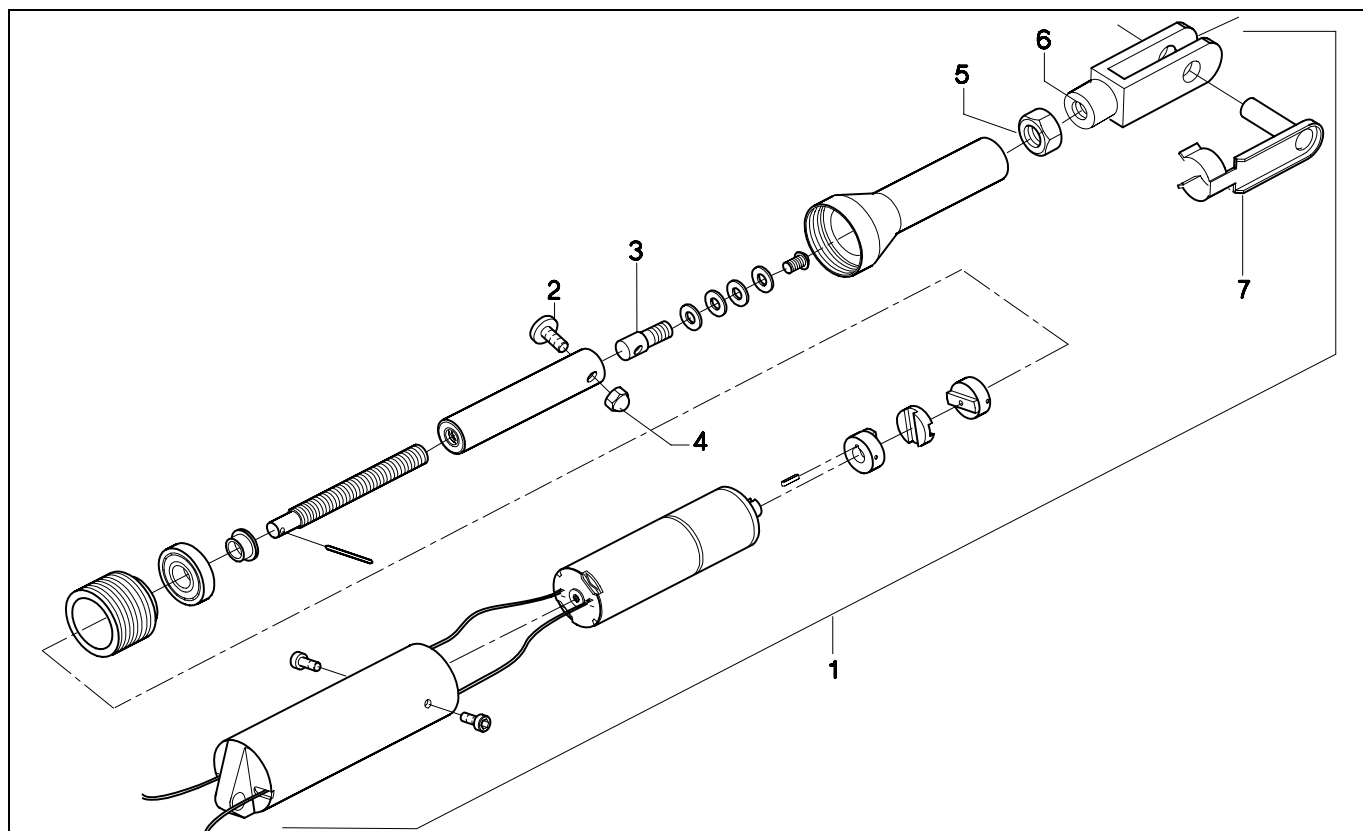
Pos	Article number	Units	Description	
1	-	1	See 011	
2	150.00141.000	1	Actuator electric back adjustment	
3	02030.3523	1	Bracket backrest adjustment	
4	00000.2250	2	Spring washer fluted M8 D137B VZ	
5	00000.1801	1	Cap locknut M6 D986/VZ	
6	00001.0914	2	Screw	
7	00000.3519	4	Adjusting screw cone M8X10 D914	
8	00000.4502	2	Star knob outs M8X15 BLACK MH	
9	9000156	1	Insert tube right	
10	9000157	1	Insert tube left	
11	02040.0623	2	Strip	
12	02040.0523	1	Receiving frame	
13	05020.0423	1	Sedeo seating frame	
14	00000.3541	4	Adjusting screw + crater M8X10 D916	
15	00000.3722	4	Screw BCK/KR VZ M6X50	
16	9000673	2	Pressure plate Sedeo	
17	02030.4023	2	Back part 1 Sedeo	
18	00000.9009	2	Insert cap round 15 black	
19	02030.4123	1	Back part 2 Sedeo short back arm	
20	00001.0204	2	Washer	
21	00000.1401	2	Shaft lock washer 15MM D6799 RVS	
22	00000.9009	2	Insert cap round 15 black	
23	02030.4223	1	Back part 2 Sedeo long back arm	
24	00000.3728	2	Buttonhead M8X12 ISO7380	
25	02030.3423	1	Back frame	
A			See: 011: Spring mechanical backrest adjustment	
B			See: 012: Electric back adjustment	

- 011: Spring mechanical backrest adjustment



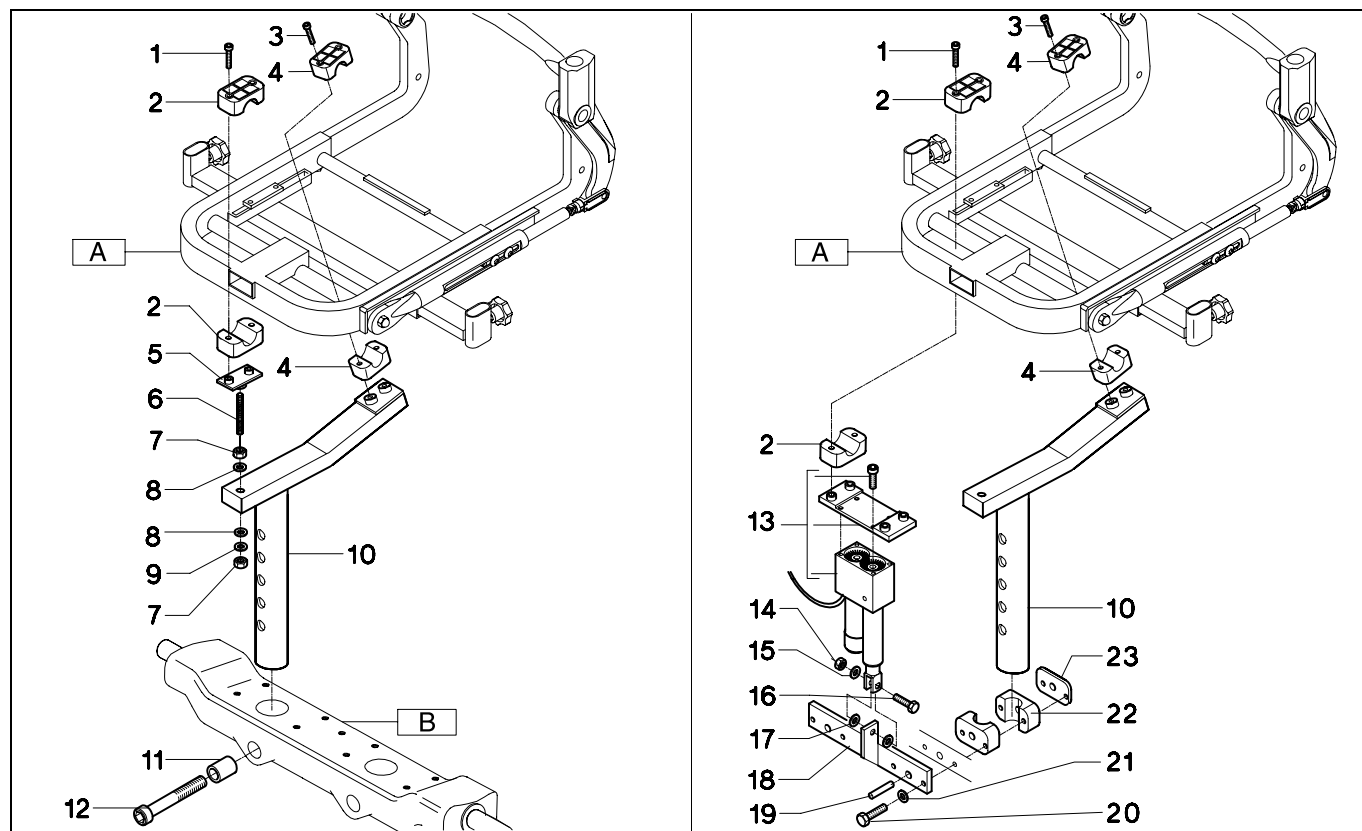
Pos	Article number	Units	Description	
			No longer available as on drawing. Has been replaced for new type as on Ibis X-Series and Yes-Series. See pos 1 for article number.	
1	1008035	1	Mechanical backrest adjustment	

• **012: Electric back adjustment**



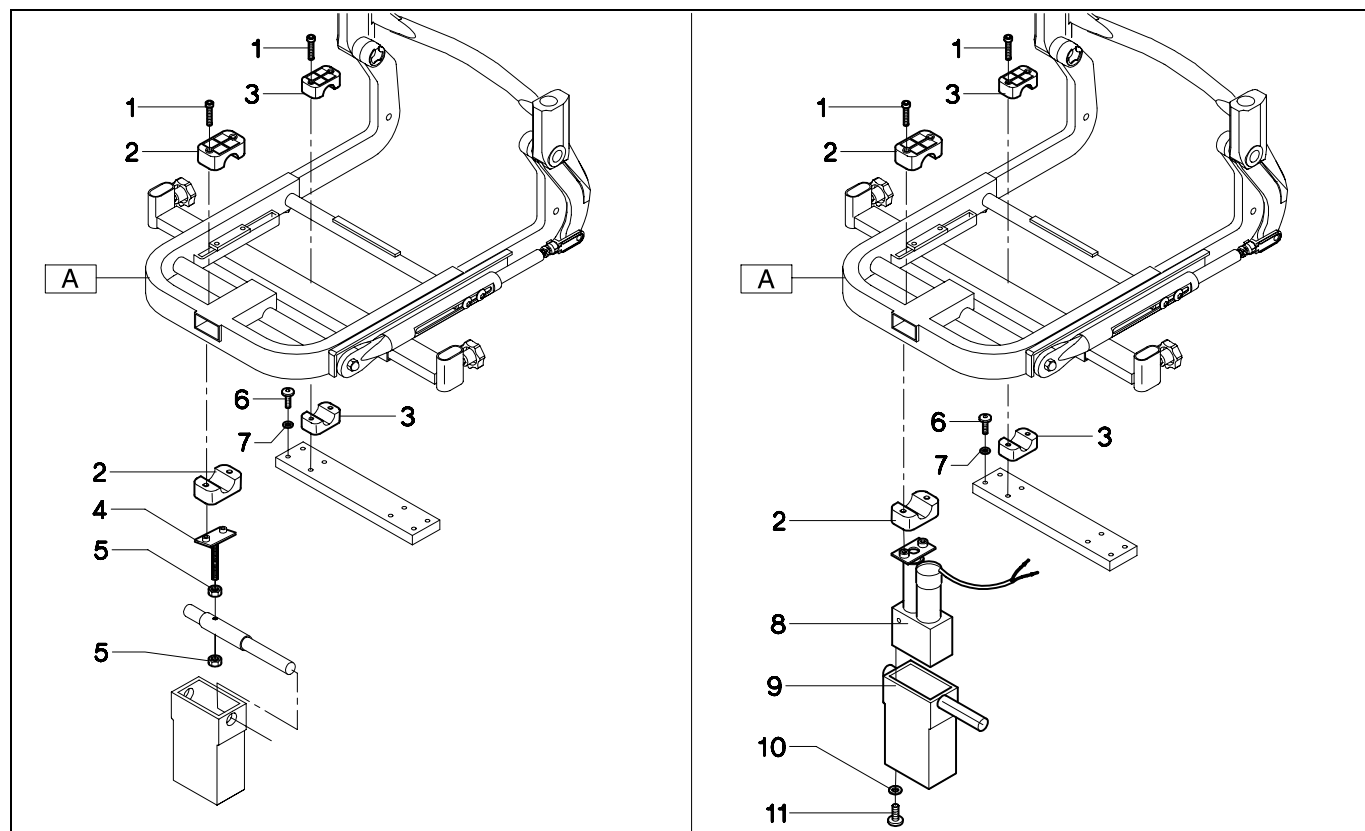
Pos	Article number	Units	Description	
1	150.00141.000	1	Actuator electric back adjustment	
2	00000.3714	1	Buttonhead M6X25 VZ	
3	05137.2012	1	Forked shaft	
4	00000.1801	1	Cap locknut M6 D986/VZ	
5	00000.1602	1	Hex Nut Low M8 D439B/VZ	
6	001.14080.004	1	Forked shaft	
7	001.20020.004	1	Clip	

• 013: Mechanical and electric tilting seat frame



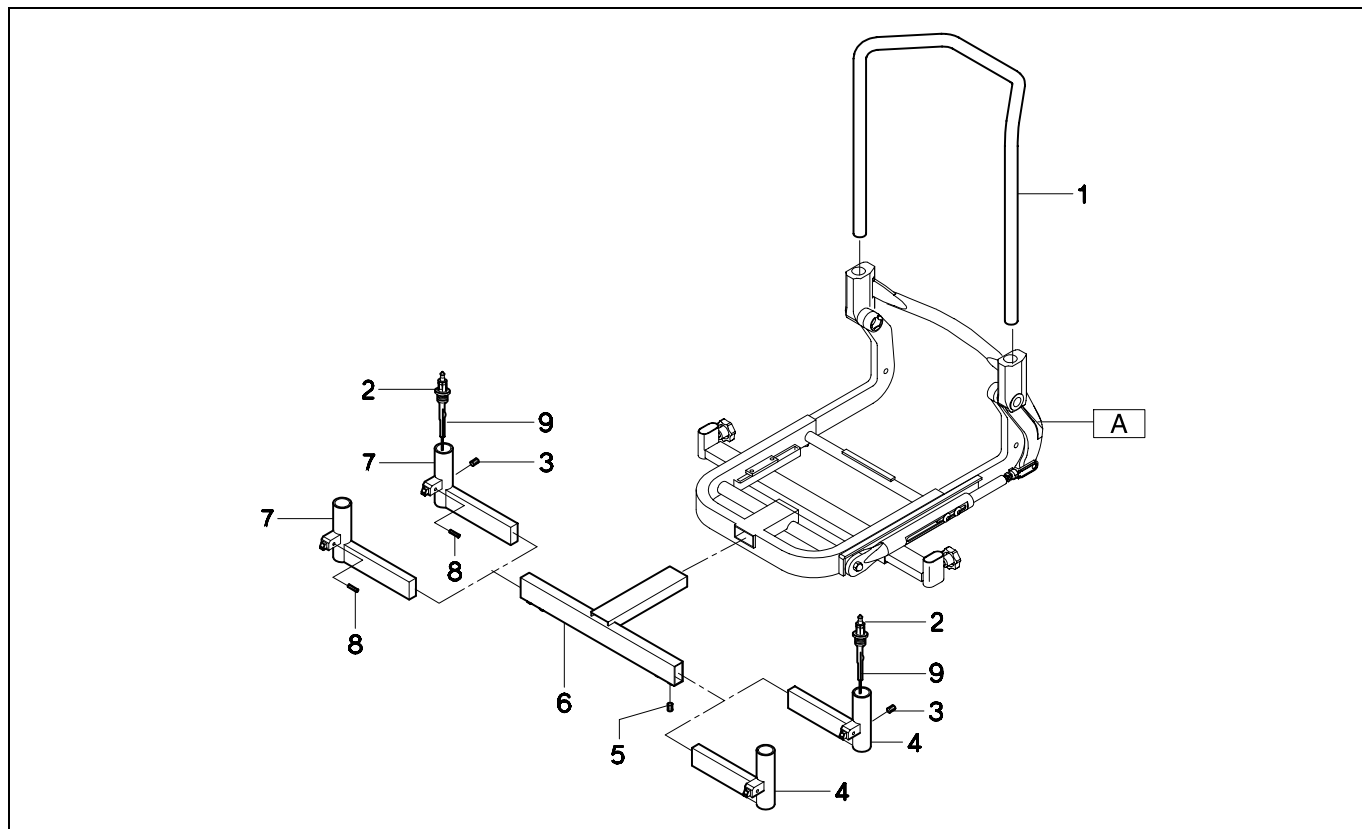
Pos	Article number	Units	Description	
1	00000.4021	4	Cil cap screw inn zk M6X30 VZ	
2	00000.8021	4	Stauff block PAH BLACK DIA.22	
3	00000.4016	4	Cil cap screw inn zk M6X25 VZ	
4	02010.7482	4	Stauff block	
5	05020.0312	2	Mounting plate	
6	00000.5915	2	Threaded end VZ M8X80	
7	00000.1502	6	Hex. Nut M8 D934/8/VZ	
8	00000.2003	4	Washer flat M8 D125A/vz	
9	00000.2203	2	Spring washer SW8	
10	05020.0544	2	Mast	
11	05010.0412	2	Bush	
12	00000.4013	2	Cil cap screw inn zk M10X70 VZ	
13	05137.9012	1	Tilt actuator	
14	00000.1701	1	Locknut M6 D985/8/VZ	
15	00000.2002	1	Washer flat M6 D125A/VZ	
16	00001.0104	1	Adjusting screw M6-8X16	
17	00000.2303	2	Washer flat M8 D125A/6.6/PA	
18	05137.0823	1	Tilting bridge	
19	00000.6105	2	Notch pin DIA 6X30, DIN1473	
20	00000.4030	4	Cyl cap screw M6X70	
21	00000.2202	4	Spring washer M6 D127B/VZ	
22	00000.7502	4	Stauff block ALU DIA 32 MM	
23	05137.0923	2	Stauff welded plate	
A			See: 010: Sedeo seatframe	
B			See: 002: Battery tray and bridge	

• 014: Mechanical and electric tilt high/low seat frame



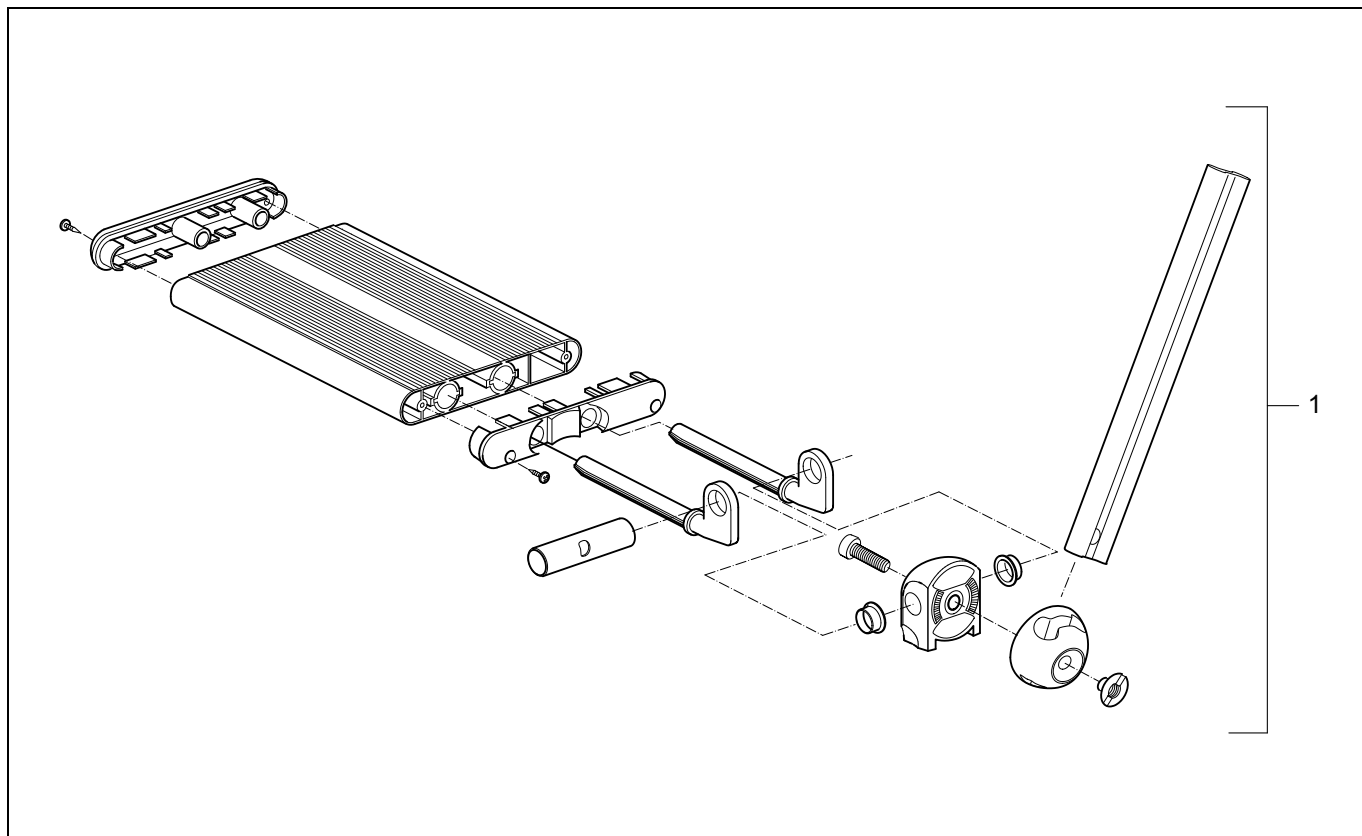
Pos	Article number	Units	Description	
1	00000.4021	6	Cil cap screw inn zk M6X30 VZ	
2	00000.8021	2	Stauff block PAH BLACK DIA.22	
3	02010.7482	4	Stauff block	
4	05456.1212	1	Mechanical tilt adjustment pin	
5	00000.1502	2	Hex. Nut M8 D934/8/VZ	
6	00000.3706	4	Screw M8xP1.25x25L	
7	00000.2203	4	Spring washer SW8	
8	05137.9112	1	Tilt actuator (in combination with H/L)	
9	05456.0912	1	H/L tilt motor housing	
10	00000.2201	4	Spring washer M5 D127B/VZ	
11	00000.3710	4	Buttonhead M5X16 VZ	
A			See: 010: Sedeo seatframe	

- 015: Mounting bracket and back frame



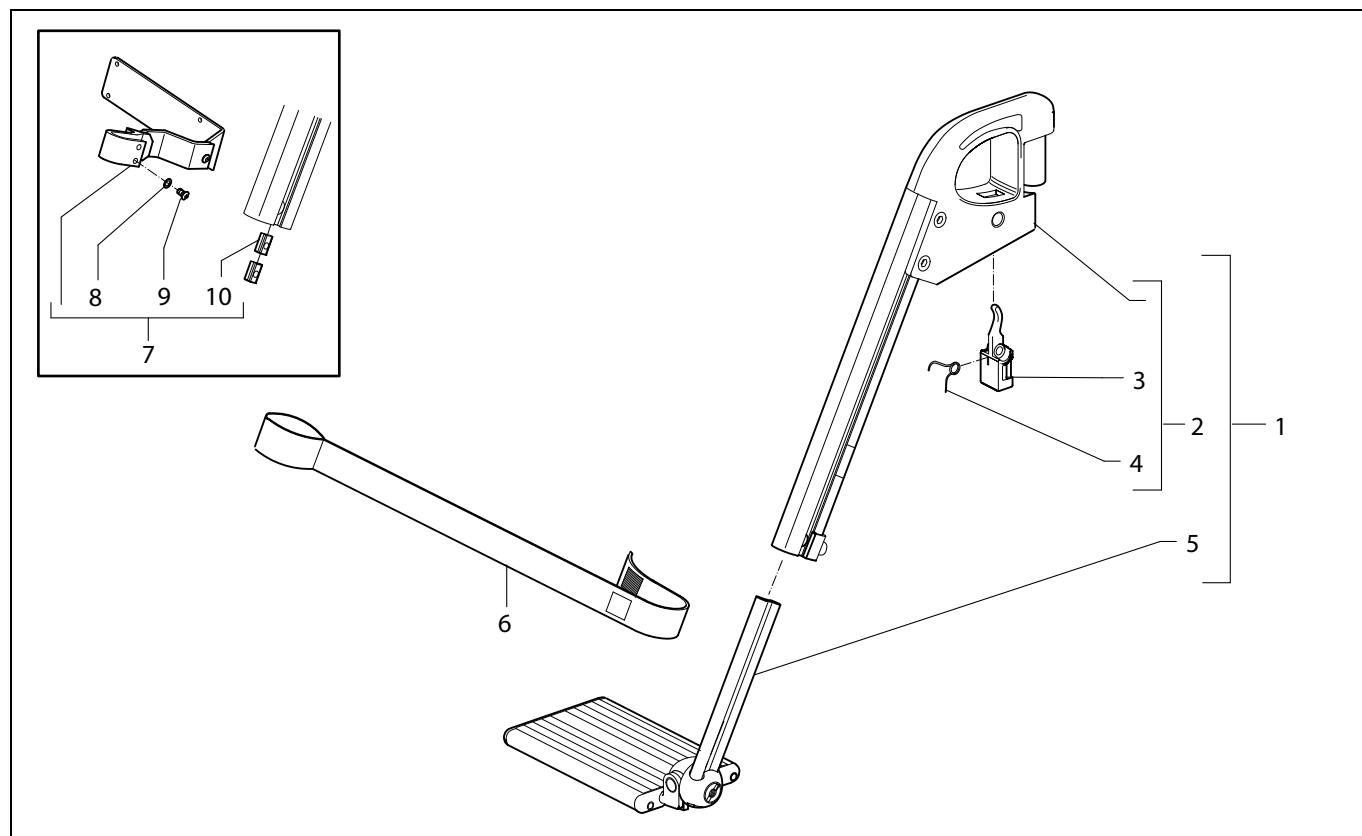
Pos	Article number	Units	Description	
1	9001374	1	Push frame small XP	
2	00355.4215	2	2-pole female plug	
3	00000.3542	2	Adjusting screw + crater M6X8 D916	
4	01502.1223	1	Insert tube left	
	05990.0013	1	Insert tube left for electrical legrest	
5	00000.3501	1	Adjusting screw BZK M8X10 D913/VZ	
6	05245.0723	1	Middle part legrest bracket	
7	01502.1323	1	Insert tube right	
	05990.0012	1	Insert tube right for electrical legrest	
8	00000.3590	4	Adjusting screw M6X16	
9	00355.1160	1	Cable comfort electric legrest L + R	
A			See: 010: Sedeo seatframe	

• **016: Footplate**



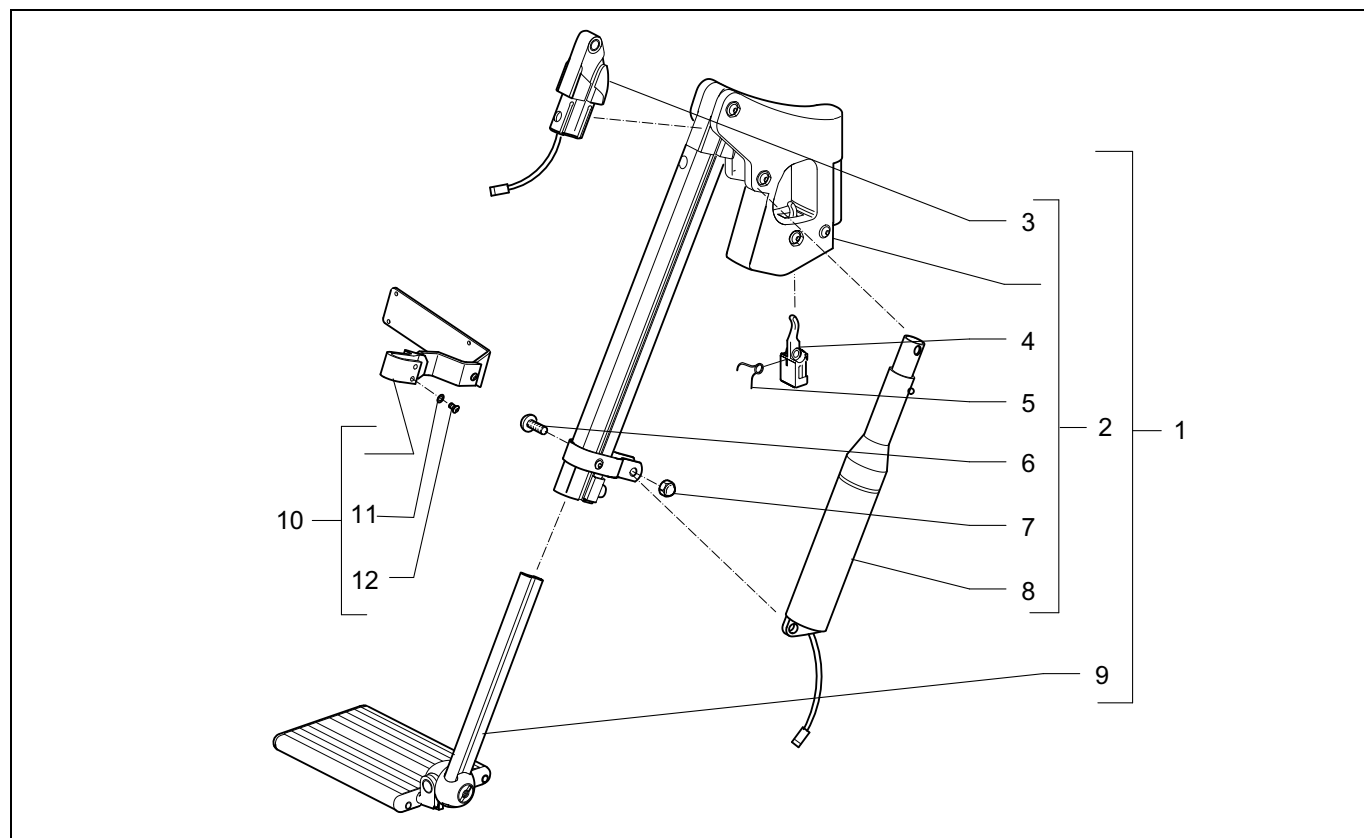
Pos	Article number	Units	Description	
1			See page 83.	

- 017: Standard leg rest



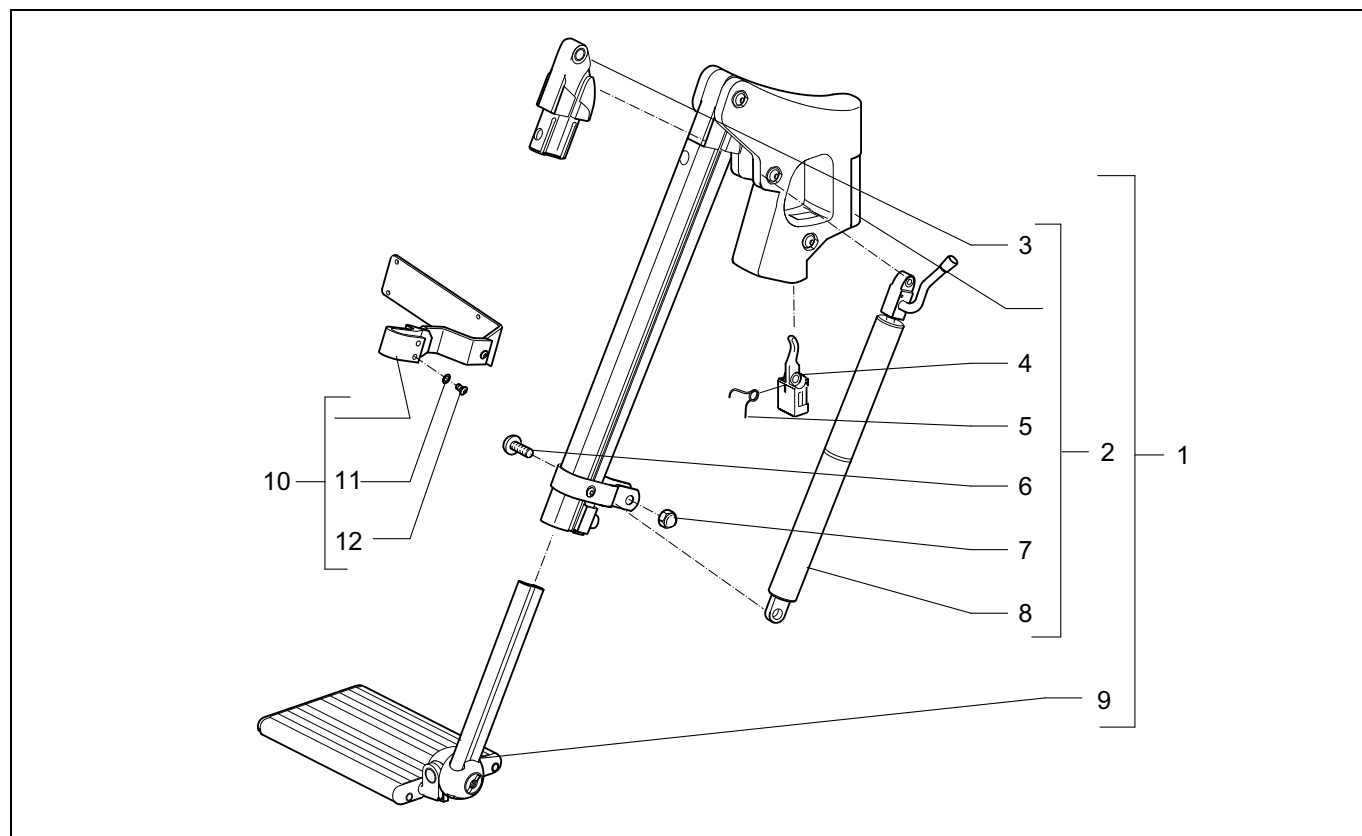
Pos	Article number	Units	Description	
1	-	1	Standard leg rest left See page 83.	
	-	1	Standard leg rest right See page 83.	
2	1002515	1	Standard leg rest upper part left	
	1002514	1	Standard leg rest upper part right	
3	01500.1112	2	Leg rest release lever	
4	01500.2212	2	Leg rest release spring	
5	-	1	Footplate left See page 83.	
	-	1	Footplate right See page 83.	
6	01263.9000	1	Calf strap	
7	1004189	2	Calf plate hinge standard	
	1004188	2	Calf plate hinge small	
8	00000.2601	4	Toothed spring washer M6	
9	00000.3725	4	Button head M6X10	
10	01500.2110	4	Leg rest clamping strip short	
-	01503.8000	1	Standard leg rest top complete right	
-	01503.8100	1	Standard leg rest top complete left	

• 018: Comfort electric leg rest



Pos	Article number	Units	Description	
1	-	1	Electrical comfort leg rest left See page 83.	
	-	1	Electrical comfort leg rest right See page 83.	
2	1003029	1	Electrical comfort leg rest upper part left	
	1003028	1	Electrical comfort leg rest upper part right	
3	1008580	2	Hinge comfort leg rest	
4	01500.1112	2	Leg rest release lever	
5	01500.2212	2	Leg rest release spring	
6	00000.3706	2	Button head M8X25	
7	00000.1802	2	Cap lock nut M8	
8	9001232	2	Leg rest actuator inc. kabel	
9	-	1	Footplate left See page 83.	
	-	1	Footplate right See page 83.	
10	906.00000.031	2	Calf plate hinge standard	
	906.00311.000	2	Calf plate hinge small	
11	00000.2601	2	Toothed spring washer M6	
12	00000.3725	2	Button head M6X10	
-	01503.8400	1	Electrical comfort leg rest top complete right	
-	01503.8500	1	Electrical comfort leg rest top complete left	

- 019: Comfort mechanical leg rest



Pos	Article number	Units	Description	
1	-	1	Comfort leg rest left See page 83.	
	-	1	Comfort leg rest right See page 83.	
2	1002517	1	Comfort leg rest upper part left	
	1002516	1	Comfort leg rest upper part right	
3	1008580	2	Hinge comfort leg rest	
4	01500.1112	2	Leg rest release lever	
5	01500.2212	2	Leg rest release spring	
6	00000.3706	2	Button head M8X25	
7	00000.1802	2	Cap lock nut M8	
8	1008076	1	Gasspring with gasspring control left	
	1008077	1	Gasspring with gasspring control right	
-	1009968	2	Gasspring 200N	
9	-	1	Footplate left See page 83.	
	-	1	Footplate right See page 83.	
10	906.00000.031	2	Calf plate hinge standard	
	906.00311.000	2	Calf plate hinge small	
11	00000.2601	4	Toothed spring washer M6	
12	00000.3725	4	Button head M6X10	
-	01503.8200	1	Comfort leg rest top complete right	
-	01503.8300	1	Comfort leg rest top complete left	

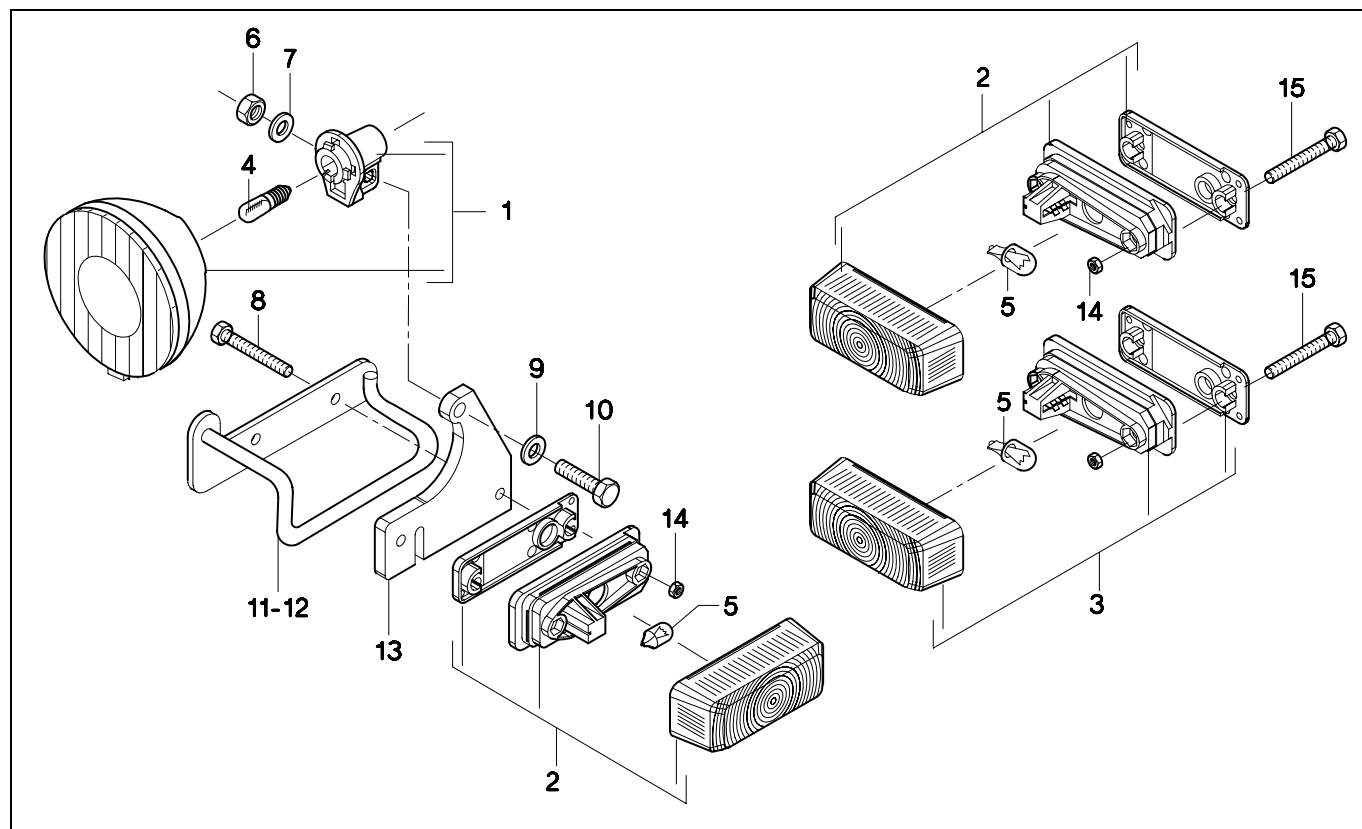
SEDEO LEGRESTS AND FOOTPLATES

SPARE PARTS

LEGRESTS									
TYPE	SIZE	RIGHT		LEFT		CALF PLATE AND LEGRESTBRACKET, SET		CALFSTRAP AND LEGRESTBRACKET, SET	
STANDARD	13	1003561		1003560		1003592		1003579	
	15	1003563		1003562		1003593		1003580	
	17	01500.9019		01500.9119		140.00071.000		140.00011.000	
	19	1003565		1003564		1003594		1003581	
	21	1003567		1003566		1003595		1003582	
	23	1003569		1003568		1003596		1003583	
	25	1003571		1003570		1003597		1003584	
COMFORT	13	140.00341.000		140.00311.000		1003607			
	15	140.00351.000		140.00321.000		1003608			
	17	01500.9219		01500.9319		140.00021.000			
	19	140.00361.000		140.00331.000		1003609			
	21	1003601		1003598		1003610			
	23	1003602		1003599		1003611			
	25	1003603		1003600		1003612			
ELECTRICAL	13	140.00461.000		140.00451.000		140.00471.000			
	15	1003618		1003613		1003623			
	17	01502.9013		01502.9113		140.00031.000			
	19	1003619		1003614		1003624			
	21	1003620		1003615		1003625			
	23	1003621		1003616		1003626			
	25	1003622		1003617		1003627			

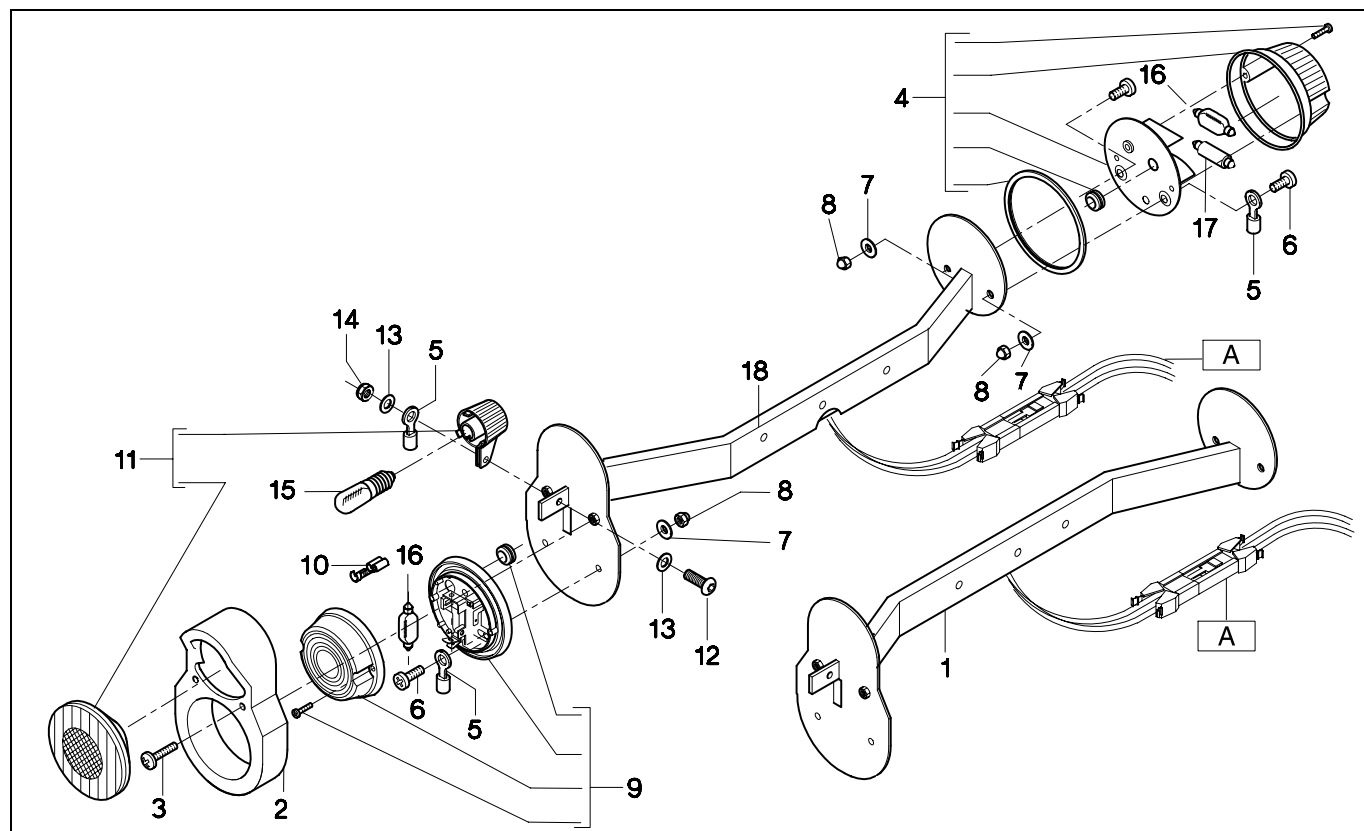
FOOTPLATES				
SIZE	RIGHT		LEFT	
13	140.00161.000		140.00191.000	
15	140.00171.000		140.00201.000	
17	140.00121.000		140.00131.000	
19	140.00181.000		140.00211.000	
21	1003220		1003219	
23	1003222		1003221	
25	1003224		1003223	

- 020: Lighting



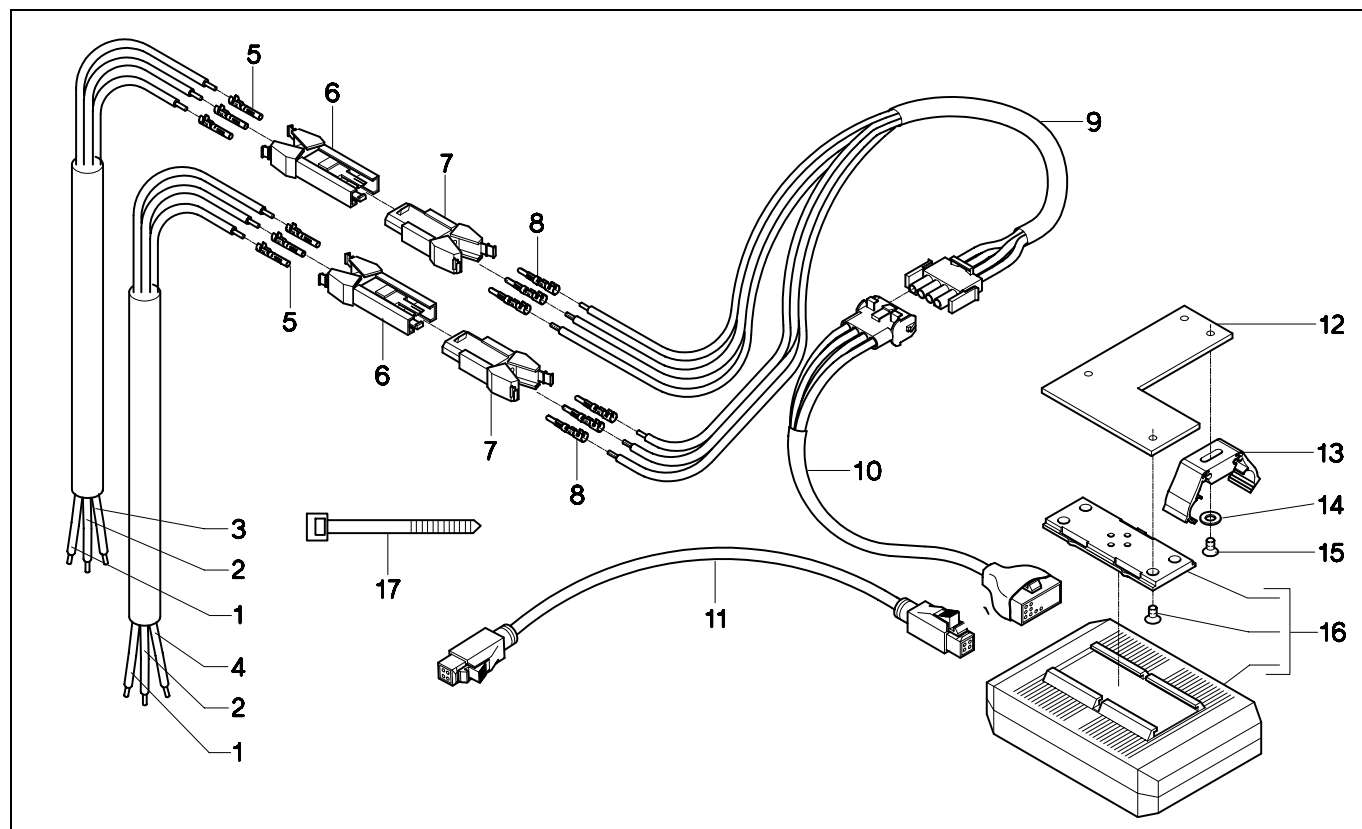
Pos	Article number	Units	Description	
1	6061	2	Headlight	
2	00355.4225	4	Tail light orange	
3	00355.4224	2	Tail light red	
4	00355.4211	2	Ball light 24V / 2.4W	
5	99009	6	Tube light 24V 5W	
6	00000.1701	2	Locknut M6 D985/8/VZ	
7	00000.2002	2	Washer flat M6 D125A/VZ	
8	00000.4328	4	Hexagonal tap bolt M4X50 D933	
9	00000.2002	2	Washer flat M6 D125A/VZ	
10	00000.3714	2	Buttonhead M6X25 VZ	
11	05902.0311	1	Light protective bracket right	
12	05902.0411	1	Light protective bracket left	
13	05010.7882	2	Mounting plate headlight	
14	00000.1507	12	Hex. Nut M4 D934/8VZ	
15	00000.3212	8	Screw M4X25	

• 021: Lighting



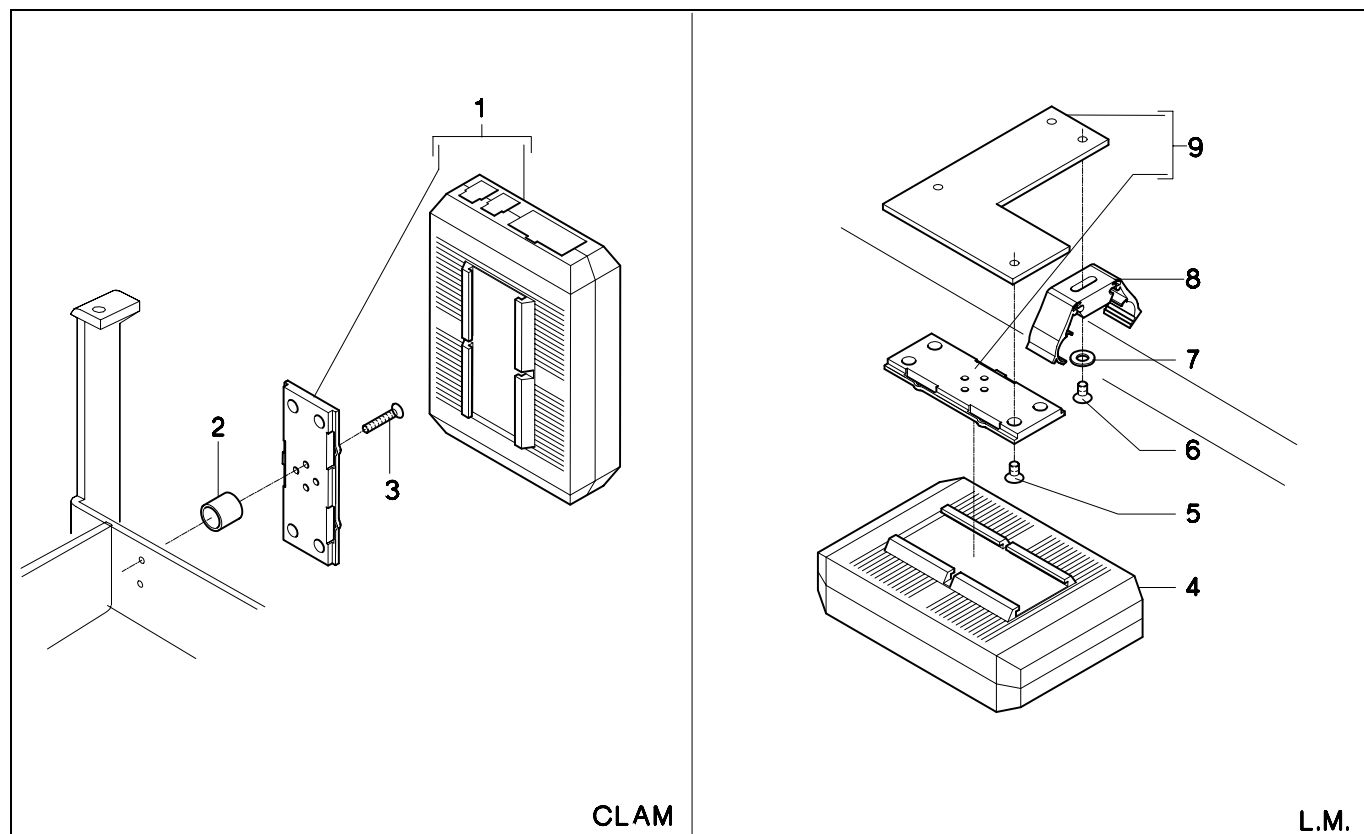
Pos	Article number	Units	Description	
1	05111.1523	1	Light unit arm left	
2	05111.1782	2	Cap	
3	00000.3710	4	Buttonhead M5X16 VZ	
4	00355.4200	2	Rear light red/orange	
5	00355.5540	6	Ring	
6	00000.3291	8	Screw BCK/KR M5X12 KS	
7	00000.2101	8	Washer flat 3XD M5 D9021/VZ	
8	00000.1800	8	Cap locknut M5 D986/VZ	
9	00355.4240	2	Flashlight front	
10	00355.5547	2	Plug	
11	6061	2	Headlight	
12	00000.3702	2	Buttonhead M6X20 VZ	
13	00000.2002	4	Washer flat M6 D125A/VZ	
14	00000.1701	2	Locknut M6 D985/8/VZ	
15	00355.4211	2	Ball light 24V / 2.4W	
16	00355.4202	4	Tube light 24V/18W SV8.5	
17	00355.4203	2	Tube light 24V/10W SV8.5	
18	05111.1623	1	Light unit arm right	
A			See: 018: Lighting cables	

- 022: Lighting cables



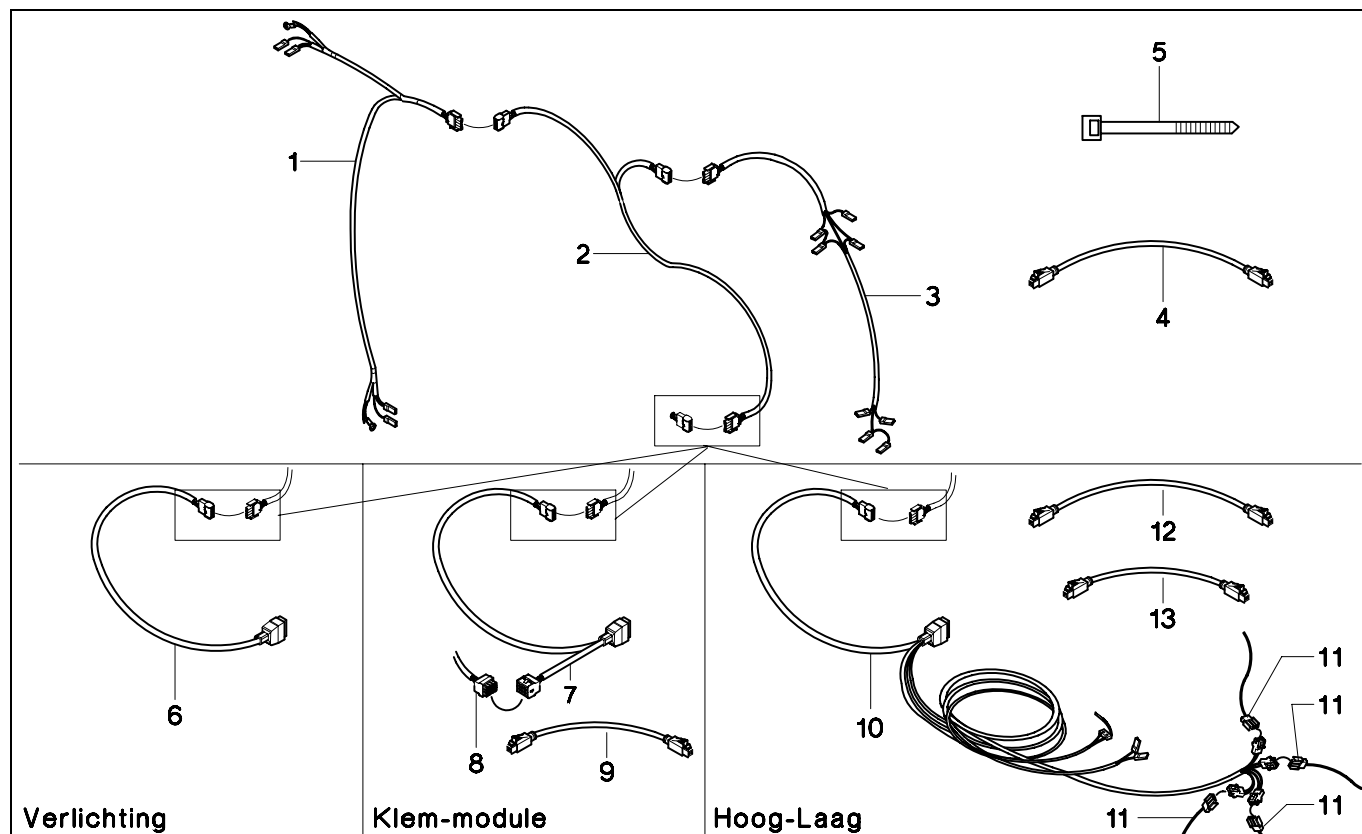
Pos	Article number	Units	Description	
1	No spare part	2	-	
2	No spare part	2	-	
3	No spare part	2	-	
4	No spare part	2	-	
5	No spare part	6	-	
6	No spare part	2	-	
7	No spare part	2	-	
8	No spare part	6	-	
9	00355.1080	1	Lighting cable armrest	
10	00355.1250	1	LM cable	
11	00355.0023	1	DX cable	
12	05900.0123	1	Bracket plate	
13	00000.6504	2	Pipe clamp back closed	
14	00000.2001	2	Washer	
15	00000.3624	2	Crosshead screw	
16	00355.0205	1	DX-LM lightning module	
17	00000.7101	2	Ty-rap	

• 023: CLAM, LM



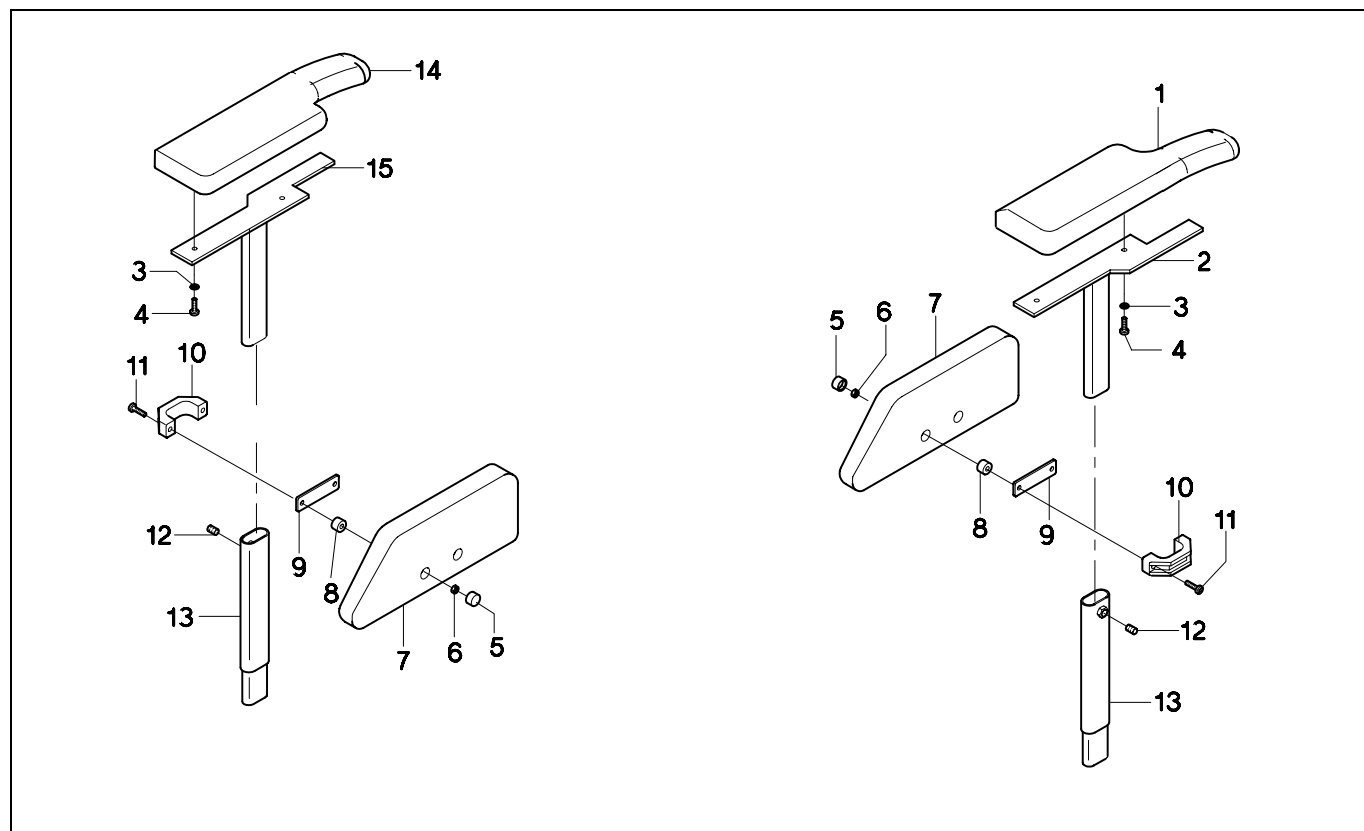
Pos	Article number	Units	Description	
1	00355.0201	1	DX CLAM	
2	00000.5721	2	Spacer bush 5.2X15X10 PE BLACK	
3	00000.3619	2	Screw pl verz/kr M3X20 VZ	
4	00355.0205	1	DX-LM lightning module	
5	00000.3624	2	Crosshead screw	
6	00000.3616	2	Screw M5X12	
7	00000.2001	2	Washer	
8	00000.6504	2	Pipe clamp back closed	
9	05900.0123	1	Bracket plate	

- 024: Lighting cables



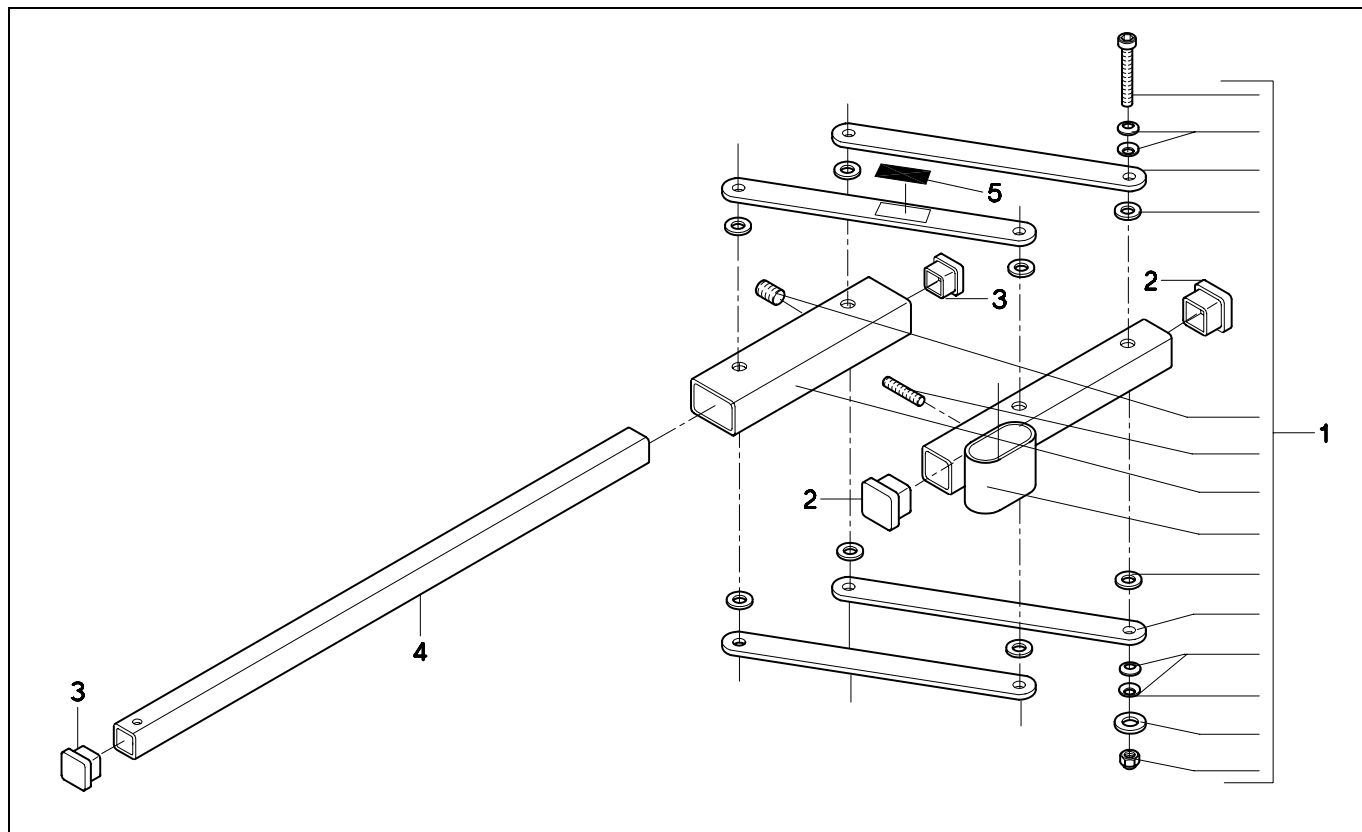
Pos	Article number	Units	Description	
1	00355.1111	1	Lighting cable	
2	00355.1130	1	Lighting T piece	
3	00355.1121	1	Lighting cable	
4	00355.0023	1	DX bush cable 1 mtr	
5	00000.7101	1	Ty-rap 23MX 92X2.4	
6	00355.1250	1	CLAM cable	
7	00355.1250	1	CLAM cable	
8	00355.1280	1	Adjusting block	
9	00355.1140	1	Speed limiter bridge	
10	00355.1201	1	H/L cable	
11	00355.5573	4	AMP plug	
12	00355.0074	1	DX bush cable 2.7 mtr	
13	00355.0025	1	DX bush cable 0.3 mtr	

• 025: Armrest



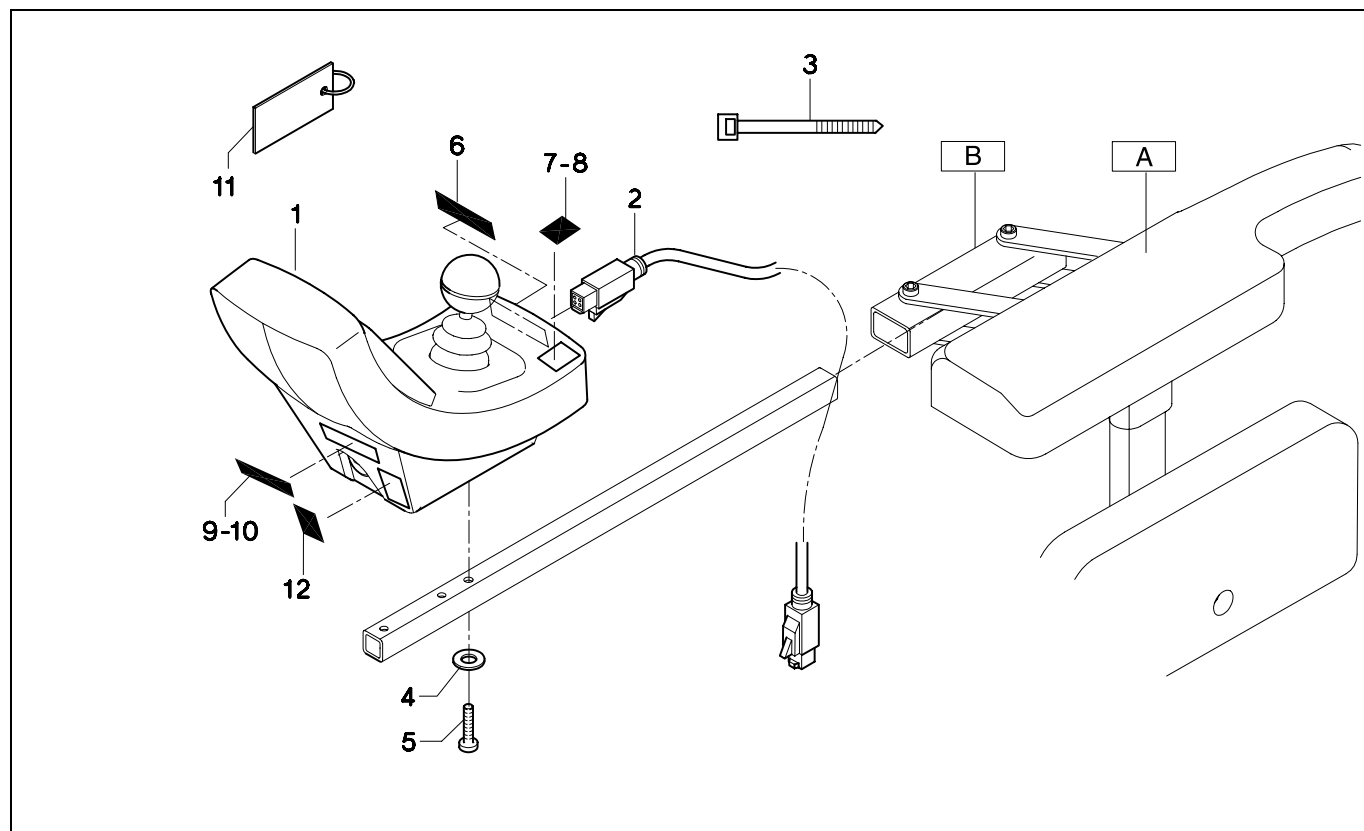
Pos	Article number	Units	Description	
1	05373.9490	1	Armrest PU left	
2	05040.0223	1	Armrest upper part left	
3	00000.2201	4	Spring washer M5 D127B/VZ	
4	00000.3207	4	Screw BCK/KR M5X20 D7985	
5	00001.0551	4	Cap	
6	00000.1700	4	Locknut M5 D985/8/VZ	
7	05372.0190	2	Side cushion	
8	00000.5721	4	Spacer bush 5.2X15X10 PE BLACK	
9	05372.0223	2	Strip	
10	02040.0782	2	Bracket	
11	00000.3213	4	Screw M5x35	
12	00000.3501	2	Adjusting screw BZK M8X10 D913/VZ	
13	9002127	1	Center piece	
14	05373.9390	1	Armrest PU right	
15	05040.0123	1	Armrest upper part right	

- 026: Swing-away joystick bracket



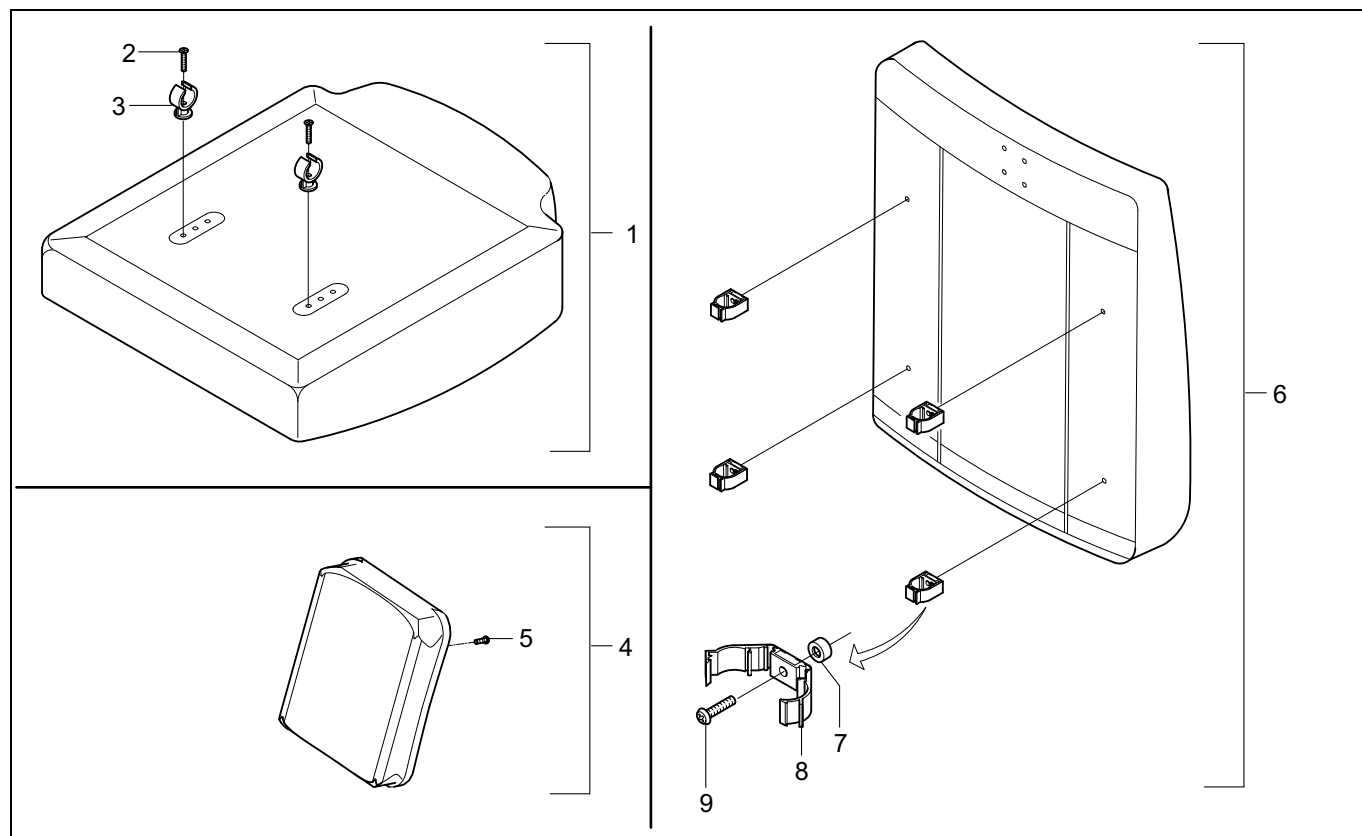
Pos	Article number	Units	Description	
1	1009533	1	Swing-away joystick bracket right	
1	1009536	1	Swing-away joystick bracket left	
2	00000.9302	2	Insert cap square 20 black	
3	00000.9301	2	Insert cap square 15 black	
4	15040.0823	1	Cylinder joystick bracket	
5	008.00000.191	1	Sticker clamping	
-	05041.9123	1	Swing-away bracket + tube for remote right	
-	165.00111.000	1	Swing-away bracket + tube for remote left	

• 027: DX controller



Pos	Article number	Units	Description	
1	00355.0425	1	Joystick 16 key incl. cable	
2	00355.0018	1	Joystick cable	
3	00000.7101	1	Ty-rap	
4	00000.2201	2	Spring washer M5 D127B/VZ	
5	00000.3212	2	Screw M4X25	
6	008.00000.201	1	Sticker for use consult	
7	008.00000.131	1	Sticker 10 km/h	
8	008.00000.141	1	Sticker 8 km/h	
9	008.00000.161	1	Sticker programmed RWD	
10	008.00000.151	1	Sticker programmed FWD	
11	00355.0434	1	Magnet key	
12	10089	1	Sticker	
A			See: 025: Armrest	
B			See: 026: Swing-away joystick bracket	

- 028: Seat / backrest / calf pad



Pos	Article number	Units	Description	
1	-	1	Sedeo seat See page 93.	
2	00000.3617	2	Screw M5X30	
3	00000.6501	2	Pipe clamp DIA 22 black	
4	220.00121.505	1	Calf plate standard	
	220.00141.505	1	Calf plate small	
5	00000.3206	4	Screw M5X16	
6	-	1	Sedeo backrest See page 94.	
7	00000.5721	4	Washer flat M6	
8	00000.6504	4	Pipe clamp back closed type	
9	00000.3207	4	Screw M5X20	

SEDEO SEAT CUSHIONS

SPARE PARTS

W X D	PROFILED	PROFILED WITH GREY MIDDLE BAR	MEMORY FOAM	SUPPORT
42x50	200.42131.505	1002950	200.40481.517	205.42791.517
46x50	200.42211.505	1002951	200.40561.517	205.42871.517
50x50	200.42291.505	1002952	200.40641.517	205.42951.517
42x54	1001977	1002953	1001997	1002006
42x58	1001978	1002954	1001998	1002007
46x54	1001979	1002955	1001999	1002008
46x58	1001980	1002956	1002000	1002009
50x54	1001981	1002957	1002001	1002010
50x58	1001982	1002958	1002002	1002011
54x50	1001983	1002959	1002003	1002012
54x54	1001984	1002960	1002004	1002013
54x58	1001985	1002961	1002005	1002014

W X D	BALANCE	FLUID	AIR
42x50	201.47741.517	1003360	1003363
46x50	201.47821.517	1003361	1003364
50x50	201.47901.517	1003362	1003365
42x54	1002024		
42x58	1002025		
46x54	1002026		
46x58	1002027		
50x54	1002028		
50x58	1002029		
54x50	1002030		
54x54	1002031		
54x58	1002032		

W X D	BOARD	BOARD WITH REAR PAN	PAN
42x50	1002042	1002054	202.41141.505
46x50	1002045	1002057	202.41221.505
50x50	1002048	1002060	202.41301.505
42x54	1002043	1002055	1002033
42x58	1002044	1002056	1002034
46x54	1002046	1002058	1002035
46x58	1002047	1002059	1002036
50x54	1002049	1002061	1002037
50x58	1002050	1002062	1002038
54x50	1002051	1002063	1002039
54x54	1002052	1002064	1002040
54x58	1002053	1002065	1002041

ADAPTATIONS special conditions will apply on all adaptations

Profiled with grey middle bar seat cushion, other upholstery size and/or material	
Memory foam seat cushion, other upholstery size and/or material	
Support seat cushion, other upholstery size and/or material	
Balance seat cushion, other upholstery size and/or material	
Fluid seat cushion, other upholstery size and/or material	
Air seat cushion, other upholstery size and/or material	
Board, other upholstery size and/or material	
Board with rear pan, other upholstery size and/or material	
Pan, other upholstery size and/or material	

SEDEO BACKRESTS

SPARE PARTS

W X D	PROFILED	PROFILED WITH GREY MIDDLE BAR	WITH LUMBAR SUPPORT	EXTRA SOFT
42x52	207.20031.505	1002974	215.20031.505	207.20211.520
46x52	207.20051.505	1002975	215.20051.505	207.20231.520
50x52	207.20071.505	1002976	215.20071.505	207.20251.520
42x56	1002143	1002977	1002161	1002179
42x60	1002144	1002978	1002162	1002180
46x56	1002145	1002979	1002163	1002181
46x60	1002146	1002980	1002164	1002182
50x56	1002147	1002981	1002165	1002183
50x60	1002148	1002982	1002166	1002184
54x52	1002149	1002983	1002167	1002185
54x56	1002150	1002984	1002168	1002186
54x60	1002151	1002985	1002169	1002187

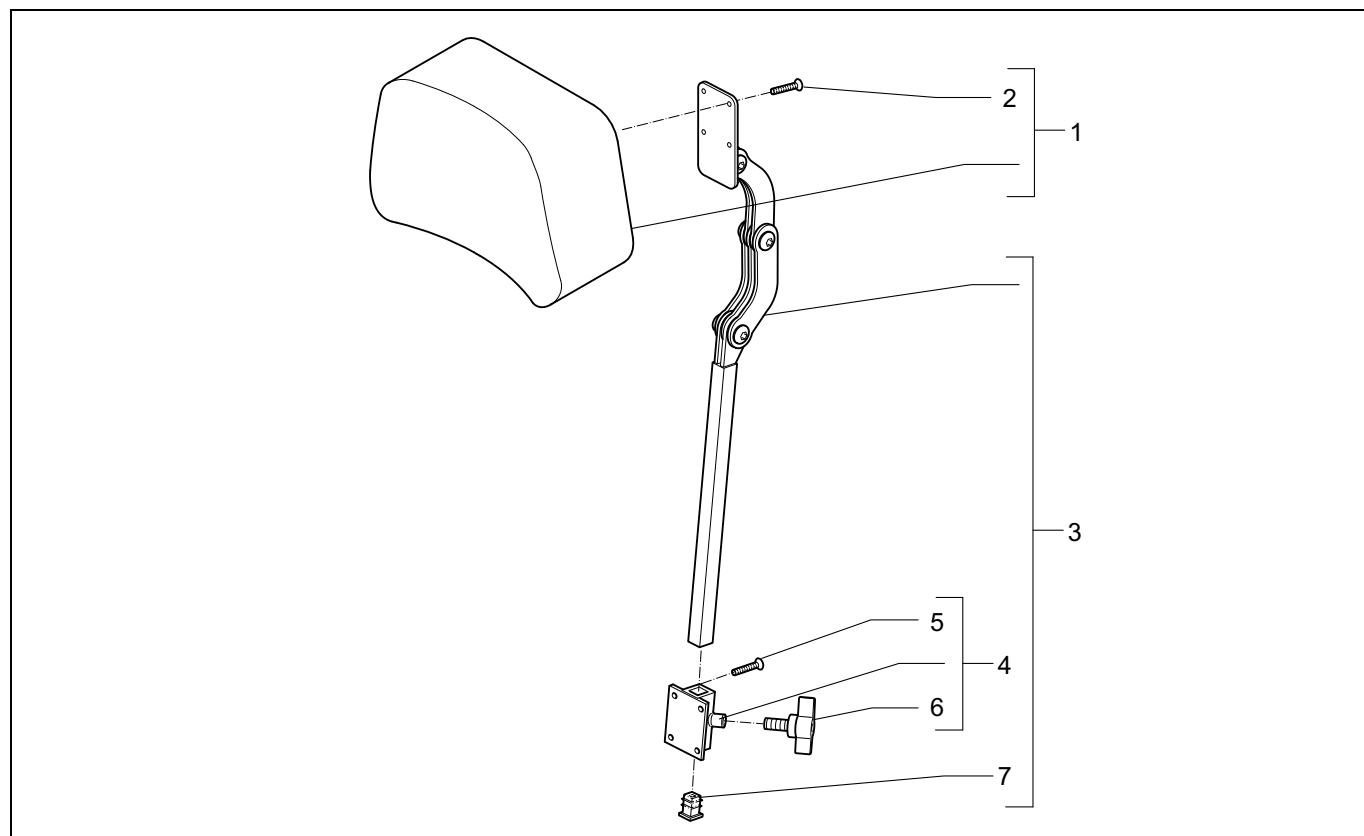
W X D	WEBBED	SUPPORT	WITH STRAPS	WITH STRAPS, ACTIVE
42x52	207.20751.520	209.20211.505	214.20751.520	214.23031.520
46x52	207.20771.520	209.20231.505	214.20771.520	214.23041.520
50x52	207.20791.520	209.20251.505	214.20791.520	214.23051.520
42x56	1002152	1002170	1002188	1002197
42x60	1002153	1002171	1002189	1002198
46x56	1002154	1002172	1002190	1002199
46x60	1002155	1002173	1002191	1002200
50x56	1002156	1002174	1002192	1002201
50x60	1002157	1002175	1002193	1002202
54x52	1002158	1002176	1002194	1002203
54x56	1002159	1002177	1002195	1002204
54x60	1002160	1002178	1002196	1002205

W X D	WITH STRAPS, ACTIVE FLEXIBLE	WITH STRAPS, PASSIVE FLEXIBLE
40x50	1008559	1008559
45x50	1008560	1008560
50x50	1008561	1008561

ADAPTATIONS special conditions will apply on all adaptations

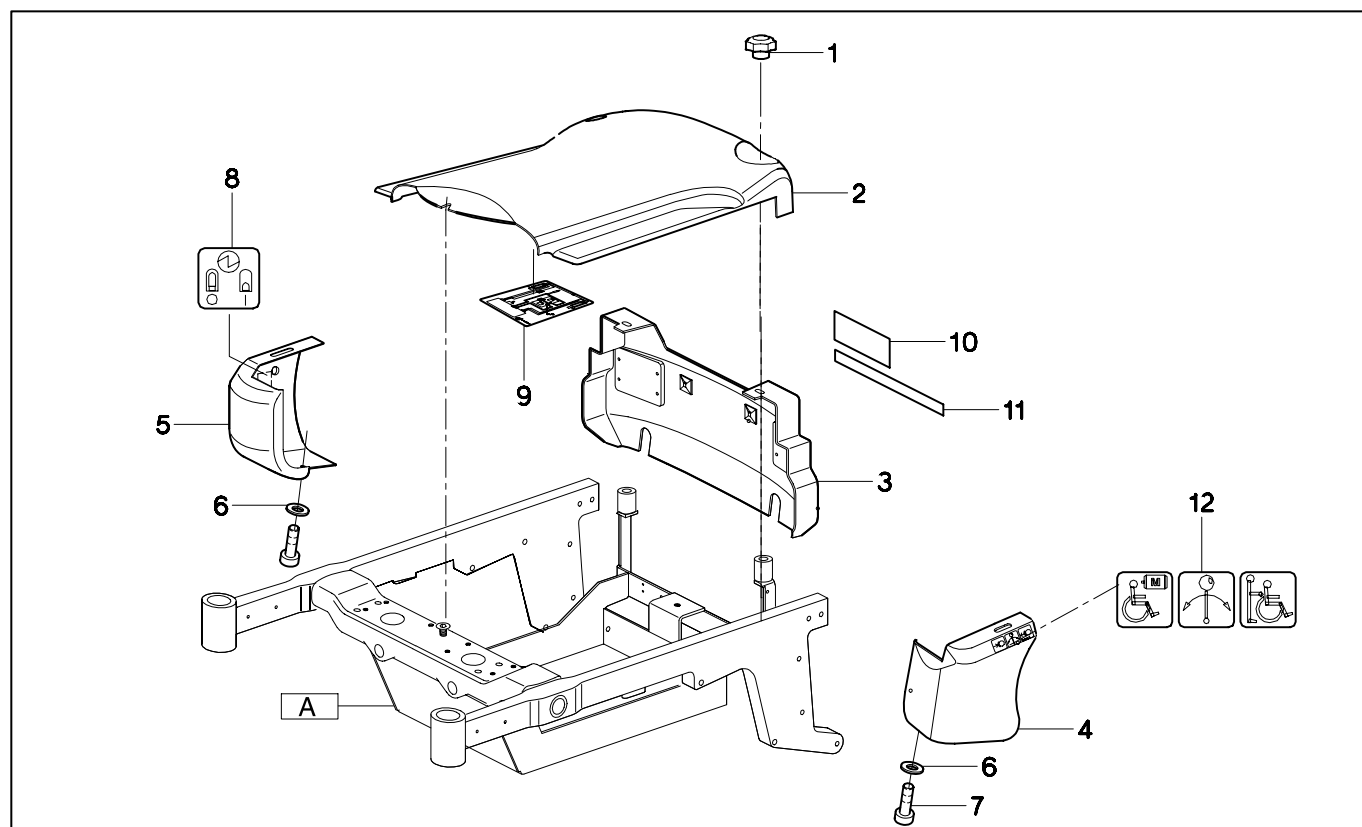
Profiled with grey middle bar backrest, other upholstery size and/or material	
Backrest with lumbar support, other upholstery size and/or material	
Extra soft backrest, other upholstery size and/or material	
Webbed backrest, other upholstery size and/or material	
Support backrest, other upholstery size and/or material	
Backrest with straps, other upholstery size and/or material	
Backrest with straps, active, other upholstery size and/or material	
Backrest with straps, active flexible, other upholstery size and/or material	
Backrest with straps, passive flexible, other upholstery size and/or material	

• 029: Headrest



Pos	Article number	Units	Description	
1	222.00151.505	1	Headrest type 4, small mode, black Sellaskin	
	222.00131.505	1	Headrest Type 3, Flexible, black Sellaskin	
	222.00111.505	1	Headrest Type 2, Large, black Sellaskin	
2	00000.3206	8	Screw bck/kr M5X16 D7985	
3	02193.0023	1	Metal Section Headrest. Standard Adjustable	
	02194.0023	1	Metal Section Headrest. With Adjustable Width	
	906.00000.161	1	Metal Section Headrest. With angle lever	
4	01183.9023	1	Headrest adjustment holder	
5	00000.3206	8	Screw bck/kr M5X16 D7985	
6	00000.6801	1	Star knob outs M8X30 BLACK MH	
7	00000.9301	1	Insert cap 15mm square	

- 030: Plastic cover



Pos	Article number	Units	Description	
1	00000.4401	2	Star knob inn. dr. M6R30 black MH	
2	05010.7082	1	Upper cover	
3	05010.7282	1	Rear cover	
4	05010.8082	1	Side cover left	
5	05010.8182	1	Side cover right	
6	00000.2201	2	Spring washer M5 D127B/VZ	
7	00000.4038	2	Cil cap screw. inn. zk M5X10 VZ	
8	00001.1328	1	Sticker automatic fuse	
9	No spare part	1	-	
10	00001.1334	1	Logo Booster Puma Kinetic	
11	00001.1330	1	Reflector sticker red	
12	00001.1352	1	Sticker freewheel right	
A			See: 002: Battery tray and bridge	

